

Foreign Direct Investment in the United States: An Update

Review and Analysis of Current Developments

A Report to the U.S. Congress in Response to Section 3(a)
of the Foreign Direct Investment and International
Financial Data Improvements Act of 1990.



U.S. Department of Commerce
Economics and Statistics Administration
Office of the Chief Economist
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FOREIGN DIRECT INVESTMENT IN THE UNITED STATES

-- Review and Analysis of Current Developments

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Introduction and Overview

by Sumiye Okubo *

Introduction and Overview

This third report by the U.S. Department of Commerce on foreign direct investment in the United States (FDIUS) continues U.S. government efforts to analyze changes in patterns and trends in FDIUS and its impact on the U.S. economy. The rapid growth of foreign ownership of U.S. assets in the 1980s heightened concerns that benefits from such investments could be outweighed by adverse effects. Although the rate of inflow has moderated in the 1990s, along with publicity and media coverage, interest in the importance and effects of FDIUS remains.

This report updates information on FDIUS, including recent changes in stocks and flows, the operations of U.S. affiliates of foreign firms, acquisitions and establishments of new affiliates, and the international trade of foreign-owned firms.¹ It highlights new information available from the 1992 benchmark survey of FDIUS conducted by the Bureau of Economic Analysis (BEA).² It also provides an examination of the characteristics of U.S. affiliates by detailed industry groups, using the results of the BEA-Census data link project. Lastly, the report analyzes the occupational structure of foreign-owned manufacturing establishments, based on the results of the BEA-BLS data link project.

This report is required under the Foreign Direct Investment and International Financial Data Improvements Act of 1990, which seeks improvement in the information on FDIUS provided to the U.S. Congress and the general public. This legislation also requires BEA to exchange confidential data on FDIUS with the Bureau of the Census and the Bureau of Labor Statistics (BLS), and the Bureau of the Census to share its data on foreign-owned establishments with BEA, in order to improve U.S. Government data on foreign direct investment.

The first report, published in August 1991, reviewed definitions and measurement issues, macroeconomic and microeconomic theories of international investment, portfolio and direct investment flows, and the planning of the BEA-Census and BEA-BLS data link projects. The report compared the trends and patterns of FDIUS to those of other countries, and assessed the role of FDIUS and its impact on the U.S. economy. It provided an overview of the characteristics and performance of U.S. affiliates of foreign firms, in general, and in five key sectors -- electronics, automobiles, steel, chemicals and banking, in which foreign ownership was significant.

The second report was published in June 1993. It examined three widely and frequently raised issues about FDIUS: (1) the impact of U.S. affiliates on U.S. trade performance; (2) the influence of U.S. affiliates of foreign companies on U.S. technology development and transfer; and (3) the extent to which foreign-controlled companies shift their income away from the United States through transfer pricing practices. It updated information considered in the first report on FDIUS, reviewing developments in direct investment in major world economies, and trends in FDIUS and in the operations of nonbank and bank U.S. affiliates of foreign firms through 1991. It also analyzed newly available data from the BEA-Census data link project. Finally, the report included a brief survey of recent non-government, analytical literature on this subject and provided a large collection of statistical tables on FDIUS.

Key Findings of This Report

Foreign direct investment in the United States and the U.S. affiliates of foreign firms continue to play an important role in, and make contributions to, the U.S. economy.

- FDIUS grew at a slower pace over the period 1990-92 than in the 1980s. This slow growth is reflected in the inflows of foreign direct investment capital, in foreigners' outlays for acquiring existing and establishing new U.S. affiliates, and in the operations and performance of U.S. affiliates. Their growth picked up in 1993.

* Director, Office of International Macroeconomic Analysis, Office of the Chief Economist, Economics and Statistics Administration, U.S. Department of Commerce.

¹ This report reproduces in chapters 2 to 7, the most recent articles previously released by the Bureau of Economic Analysis in its monthly *Survey of Current Business*.

² This last benchmark survey was undertaken in 1987.

- In 1992, Japan surpassed the United Kingdom as the largest foreign direct investor in the United States, and remained so in 1993. However, its net investment rate in 1993 did not keep pace with that of other countries, largely because of poor economic conditions in Japan and an increased share of Japanese direct investment outflows going to East and Southeast Asia.
- Foreign-owned U.S. firms tend to invest in establishments that are larger and more capital-intensive than U.S.-owned establishments. They tend to pay higher wages. Labor productivity also tends to be higher in the foreign-owned establishments. These differences, however, are slight when industry mix is taken into account.
- In the manufacturing sector, a comparison of occupational distributions of foreign-owned establishments and of all U.S. establishments indicates small differences, suggesting that foreign-owned firms do not tend to provide only low skill jobs in the United States, and thus to keep good jobs at home.
- Foreigners on average tend to invest in research-intensive U.S. industries, as reflected in the high share of total U.S. R&D spending by their U.S. affiliates relative to their share of total U.S. value added. The research intensity of foreign- versus U.S.-owned firms, however, varies across industries, with foreign-owned enterprises more research intensive than U.S.-owned firms in some industries, such as drugs, and less intensive in other industries such as electronic equipment.
- U.S. affiliates of foreign firms tend to be more unionized than U.S.-owned companies, although in manufacturing, the difference is less pronounced. This difference can be attributed partly to industry mix and to investments by foreigners in large-sized firms that tend to be more highly unionized than small firms.
- The international trade of U.S. affiliates of foreign firms represents an important share of total U.S. trade, with the affiliates' U.S. trade deficit equal to more than 50 percent of the total U.S. merchandise trade deficit. Most of the affiliates' international trade and trade deficit is by affiliates in the U.S. wholesale trade sector, and reflects the use of U.S. affiliates as a conduit to facilitate the distribution in the United States of products produced by the foreign parent companies.

Defining and Measuring Foreign Direct Investment

Foreign investment in the United States by foreign governments and private investors is classified into two categories: direct and portfolio. Foreign investment is defined as direct when direct or indirect ownership by a foreign person or business amounts to ten percent or more of the voting securities of an incorporated U.S. business enterprise, or an equivalent interest in an unincorporated U.S. business enterprise. This ten-percent or more equity interest is deemed an indication of a long-term interest in, and a measure of influence over, the management of a firm. Portfolio investment is any investment that is not direct investment; it can be in the form of bank accounts, bonds, or investments in securities amounting to less than 10 percent voting interest in a U.S. business enterprise.

Foreign direct investment is measured in terms of annual flows of investment, as reflected in the capital account of the U.S. balance of payments, and cumulative stock of investment. Moreover, it is measured on a historical cost basis, on a current replacement cost basis, and on a market valuation basis. For a more detailed discussion of these terms, see the appendix to this report.

Update on Foreign Direct Investment in the United States

The pace of growth of FDIUS moderated during the early 1990s. In 1993, the overall foreign direct investment position rose 5 percent on a historical cost basis, compared to a rise of 2 percent in 1992 and a 6-percent increase in 1991 -- considerably lower than the 16-percent average annual rate of growth seen during the 1982-90 period. The foreign direct investment position in the United States increased in 1993 on a current cost basis by \$19.7 billion to \$516.7 billion, and at market value by \$48.8 billion to \$745.6 billion. Outlays for acquisitions and establishments in the early 1990s also show a slowdown from the 1980s. After 4 years of declining growth, in 1993, foreign investors increased outlays for acquiring and establishing U.S. business enterprises. (See Table 1-1.)

In 1993, despite economic problems at home, Japan was the largest foreign direct investor in the United States in terms of position with cumulative investments of \$96.1 billion in 1993 or 22 percent of the total, compared to the United Kingdom's position of \$95.4 billion or 21 percent of the total. The Netherlands remained the third largest investor, with \$68.5 billion or 15 percent (Figure 1-1).

Table I-1

Outlays for Business Enterprises Acquired or Established by Foreign Direct Investors, 1987-93

	Outlays (billions of dollars)						
	1987	1988	1989	1990	1991	1992 ¹	1993 ²
Investments, total	40.3	72.7	71.2	65.9	25.5	15.3	26.2
Acquisitions	33.9	64.9	59.7	55.3	17.8	10.6	23.1
Establishments	6.4	7.8	11.5	10.6	7.7	4.7	3.1
Investors, total	40.3	72.7	71.2	65.9	25.5	15.3	26.2
Foreign direct investors	11.8	18.6	22.5	14.0	8.9	4.1	6.6
U.S. affiliates	28.5	54.1	48.6	51.9	16.6	11.3	19.6

Source: Bureau of Economic Analysis, U.S. Department of Commerce.

¹ revised. ² preliminary.

rates experienced in the 1987-91 period and with the growth rate of 3 percent for all-U.S. business. Affiliates' share of U.S. economic activity remained, nonetheless, substantially higher than in 1987 (4.5 percent), the year of the last benchmark survey, and double the 1977 share (2.3 percent). The 1992 benchmark survey of FDIUS also indicates declines or slower growth in other aspects of the operations of U.S. affiliates:

- 3.3 percent growth in total assets of affiliates in 1992 compared to 8.3 percent in 1990 and 13.1 percent in 1991;
- A 12.8 percent drop in affiliates' expenditures for new plant and equipment, compared to increases of 26.1 percent in 1990 and 0.3 percent in 1991;
- A 3 percent decline in employment by nonbank affiliates, the first since 1977;
- The third consecutive year of negative after-tax net income of nonbank affiliates.

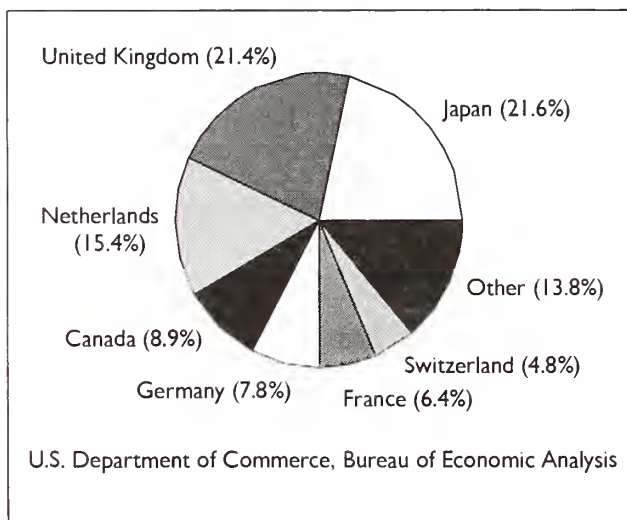
The 1992 benchmark survey provides new insights into the R&D activities and unionization of U.S. affiliates. It shows that the affiliates' share of total U.S. R&D spending, at 13 percent, was much higher than their share of all-U.S.-business GDP (6 percent). The higher share of R&D reflects the typically large size of these affiliates and the tendency of foreign parents to invest in research-intensive industries compared to U.S. firms. U.S. affiliates of foreign firms employed 104,000 R&D workers, or about 2 percent of affiliate employment. The research intensity of affiliates that performed R&D was about the same as the average of all R&D-performing U.S. companies. However, across industries, the research intensity varied widely: it was substantially lower than that of all R&D-performing companies in computer and office equipment, electronic equipment, and instruments; and higher in drugs and audio, video, and communications equipment.

U.S. affiliates tended to be more highly unionized than all U.S. companies, partly because foreign firms invest in industries with high unionization rates and partly because foreign firms invest in larger firms, which tend to have higher rates of unionization. Employees covered by collective bargaining agreements accounted for one-fifth of total employment by U.S. affiliates, compared with one-eighth for all U.S. business. In manufacturing, however, the shares of union employees were much closer, at 24 percent for U.S. affiliates and 21 percent for U.S. businesses.

The survey also highlights the disproportionate role U.S. affiliates of foreign companies play in U.S. trade. U.S. non-bank affiliates accounted for only 5 percent of total U.S. private business employment and 6 percent of gross domestic product, but accounted for 22

Figure I-1

Foreign Direct Investment Position in the United States, 1993: Shares of Investor Countries



Benchmark Survey Shows Affiliates' Share of Economy Slips and Performance Slows Down

Over the past few years, the U.S. affiliates' share of the U.S. economy slipped, reflecting slower growth in FDIUS. U.S. affiliates of foreign firms accounted for a slightly smaller share of the U.S. GDP in 1992 (5.8 percent) than in 1991 (6 percent) -- the first decline since 1985. Growth of the affiliates' real gross product was essentially flat in 1992, compared with the higher growth

percent of U.S. merchandise exports and 34 percent of merchandise imports in 1992. In recent years, their trade deficit has amounted to more than 50 percent of the total U.S. merchandise trade deficit. An analysis of the data indicates that most of U.S. affiliates' trade, and thus their trade deficit, can be attributed to the wholesale trade sector, rather than manufacturing affiliates, largely because foreign investors, particularly Japanese investors, tend to channel their trade through wholesaling affiliates.

Characteristics of Foreign-owned Establishments: BEA-Census and BEA-BLS Linked Data

The linking of the BEA and Census data on the operations of foreign-owned U.S. establishments (plants) provided new, more detailed information about the nature of foreign-owned operations in the United States, compared to previously reported data at the enterprise or firm level. The new data for 1989 and 1990 on foreign-owned manufacturing establishments indicate a continued and rising importance of foreign-owned establishments in the United States:

- The value of shipments by U.S. foreign-owned manufacturing establishments was \$418 billion, or 14.5 percent of total U.S. manufacturing shipments in 1990, compared to \$237 billion, or 9.6 percent of the total, in 1987. They produced \$177 billion or 13 percent of the value added by all U.S. manufacturing establishments in 1990. They increased by about 50 percent the number of employees from 1.3 million workers (6.9 percent of all U.S. manufacturing workers) in 1987 to 2 million workers (11 percent of the total) in 1990.
- Seven countries -- Canada, France, Germany, Japan, the Netherlands, Switzerland, and the United Kingdom -- continued to dominate FDI in manufacturing. They represent more than 80 percent of employment, shipments, and value added by all foreign-owned manufacturing establishments in 1990.

Compared to U.S.-owned manufacturing establishments, foreign-owned manufacturing establishments tended to be larger and more capital intensive, pay higher wages, and have higher productivity (as measured by value added per production worker hour).

- The average plant size, or scale, of foreign-owned establishments is much larger than that of U.S.-owned establishments in most industries.
- The capital intensity of foreign-owned establishments is somewhat higher than that of all U.S.-owned establishments, almost entirely reflecting the higher concentration of foreign-owned firms in the most capital-intensive industries.
- The average hourly wages paid to production workers in foreign-owned establishments are higher than for U.S.-owned establishments, due mainly to industry mix.
- On average, foreign-owned establishments have a higher overall labor productivity (measured as value added per production worker hour) than U.S.-owned establishments, largely because they tend to be concentrated in high productivity industries. Productivity differences within industries appear to be mainly due to differences in plant size, capital intensity, and employee skill level, rather than to foreign ownership *per se*.

In a parallel link project between BEA and the Bureau of Labor Statistics, new data on the occupational structure of foreign-owned manufacturing establishments for 1989 provide additional insights into the operations of these establishments. The new data do not suggest that foreign firms are keeping professional jobs at home. They show that the occupational structure of foreign-owned manufacturing establishments is not significantly different from that of all U.S. manufacturing establishments.

In some industries, however, the differences in staffing patterns between foreign-owned and all U.S. businesses are large. For example, in the petroleum and coal products and transportation equipment industries, foreign-owned establishments employ fewer higher skilled workers than U.S.-owned establishments. There are also differences by country of ownership. While establishments owned by parents in Canada, Germany, the Netherlands, and the United Kingdom have patterns of occupational employment similar to those of U.S.-owned establishments, Swiss-owned firms employed more professional workers and fewer production workers than U.S.-owned establishments, whereas for French- and Japanese-owned establishments, the opposite is the case.

The International Investment Position of the United States in 1993

by Russell B. Scholl*

The net international investment position of the United States at yearend 1993 was -\$555.7 billion when direct investment is valued at the current cost of replacing plant, equipment, and other tangible assets, and it was -\$507.7 billion when direct investment is valued at the current stock-market value of owners' equity (Table 2-1, Figure 2-1). However, for direct investment, U.S. assets abroad exceeded foreign assets in the United States. For other assets, taken as a whole, foreign holdings in the United States exceeded U.S. holdings abroad, mostly reflecting large foreign portfolio holdings in the United States.

The position with direct investment at market value became less negative in 1993 because of exceptionally strong price increases in foreign stock markets, which substantially raised the market value of U.S. direct investment abroad relative to the market value of foreign direct investment in the United States. In contrast, the position with direct investment at current cost became more negative; the cost of capital equipment, structures, land, and inventories, upon which the current-cost valuation is based, rose much less than foreign stock prices.

Table 2-1
Summary Components of the U.S. Net Position
(Billions of dollars)

	1992	1993
Net position:		
At current cost.....	-507.9	-555.7
At market value.....	-590.0	-507.7
U.S. Government and foreign official assets	-214.9	-271.0
Direct investment:		
At current cost.....	171.2	199.5
At market value.....	89.1	247.5
U.S. and foreign securities.....	-514.4	-468.8
Bank- and nonbank-reported claims and liabilities.....	50.2	-15.4

* The author is an economist in the Balance of Payments Division, Bureau of Economic Analysis, Economics and Statistics Administration, U.S. Department of Commerce. This chapter was previously published as an article in the *Survey of Current Business*, June 1994. Harlan W. King directed the preparation of estimates other than those of direct investment, with major contributions from Christopher A. Gohrband, Dena A. Holland, Theresa M. Stoll, and Lori A. Trawinski.

In 1993, large net capital inflows continued (Table 2-2). Price changes abroad exceeded those in the United States, because foreign stock price increases far exceeded those in the United States. Exchange-rate adjustments were most significant in U.S. direct investment abroad and U.S. portfolio investments in Canada and Europe, where foreign currencies depreciated against the dollar from yearend 1992 to yearend 1993.

U.S. assets abroad increased strongly, reflecting U.S. institutional investors' accelerated diversification into foreign securities and record U.S. direct investment outflows. Record capital outflows were encouraged by prospects for economic recovery in many industrial countries, by continuing growth in emerging-market

Figure 2-1

Net International Investment Position of the United States, 1982-93

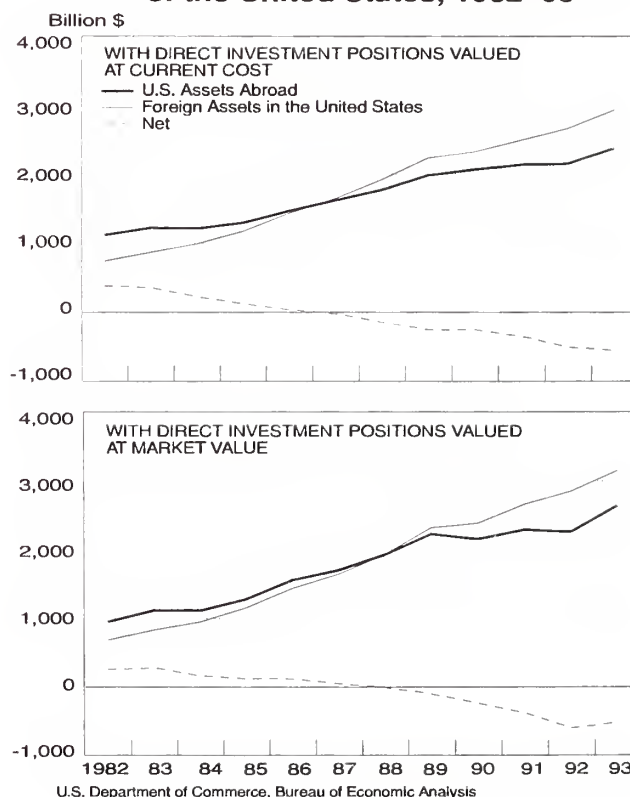


Table 2-2
Changes in the Net International Investment
Position, 1993
(Billions of dollars)

	At current cost	At market value
Total change.....	-47.8	82.3
Capital flows.....	-82.8	-82.8
Price changes.....	60.4	198.3
Exchange rate changes.....	-23.2	-31.6
Other valuation changes.....	-2.2	-1.6

countries, and by foreign bond interest rates that remained well above U.S. bond rates. The especially large increase in U.S. portfolio holdings of foreign stocks raised the foreign component of U.S. holdings of all stocks to 4.9 percent by yearend 1993, compared with 3.3 percent at yearend 1992. In contrast, U.S. bank claims on foreigners declined for the fourth consecutive year, mainly as Japanese banks continued to cut back their international operations through U.S. offices.

Foreign assets in the United States increased in all categories, but especially strongly in portfolio holdings of U.S. securities. Record foreign capital inflows were encouraged by the relative strength of the U.S. economy,

low U.S. inflation, and the U.S. dollar's appreciation against most key foreign currencies in 1993. In contrast, economic growth in most industrial countries was sluggish or negative. Strongly rising U.S. bond prices and, to a lesser degree, U.S. stock prices encouraged large inflows into U.S. securities and contributed to price appreciation in foreign holdings. Foreign direct investment growth increased, as capital inflows recovered from the depressed 1992 level and, on a market-value basis, as the rise in U.S. stock prices added further to owners' equity. In addition, foreign official assets increased a record amount on a widespread buildup of dollars held by foreign central banks.

This chapter presents the major changes in U.S. assets abroad and the major changes in foreign assets in the United States, including direct investment valued at current cost and at market value. Tables 2-9, -10, and -11, at the end of the article, present detailed estimates of the position, showing a breakdown of changes by account from 1992 to 1993, aggregate estimates by area for 1992-93, and historical estimates for 1979-93.

This report also contains a companion chapter, "Foreign Direct Investment Position in the United States on a Historical-Cost Basis, 1993: Country and Industry Detail," that presents detailed estimates of the foreign

New Source Data and Methodological Improvements

The international investment position estimates shown in this chapter incorporate new source data and methodological improvements that typically relate to changes incorporated in the U.S. international transactions accounts. For example, position estimates, and transactions based on changes in those position estimates, of U.S. nonbanking concerns' claims on and liabilities to unaffiliated foreigners were both enhanced by incorporation of new foreign-source data. For the international investment position, there are several major changes:

1. Claims on and liabilities to foreigners reported by U.S. nonbanking concerns were revised by further substitution of foreign-source data for selected country data reported to the U.S. Treasury. Counterpart data reported by national authorities to the Bank of International Settlements (BIS) on their local banks' claims on and liabilities to U.S. nonbanking concerns were introduced into U.S. estimates back to yearend 1983. The counterpart data for U.S. nonbank claims--that is, foreign banks' liabilities reported to the BIS--were used for Caribbean and Asian finance centers and for several countries in Western Europe not covered in last year's improvements. The counterpart data on U.S. nonbank liabilities--that is, foreign banks' claims reported to the BIS--were used for the first time for Caribbean and Asian finance centers only. The BIS data were augmented with data from the Bank of England on British banks' claims on the United States.

2. Holdings of foreign, U.S. corporate, and U.S. federally-sponsored agency bonds were revised as a result of a change in the calculation of price changes. Comprehensive price indexes (obtained from market sources) that cover hundreds of issues and all major types are now used in place of indexes that were based on a small sample within each major type of issue.

- (a) Foreign bonds: Dollar bonds placed in the U.S. market are now priced using more comprehensive indexes, and price changes for outstanding foreign-currency-denominated bonds have been introduced.

- (b) U.S. corporate bonds: New estimates of redemptions of U.S. corporate Eurobonds have resulted in revisions to outstanding Eurobond issues and to foreign holdings of domestic corporate bonds, and new, more comprehensive price indexes were applied to each component.

- (c) U.S. agency bonds: A more comprehensive measure of price changes was introduced.

3. U.S. liabilities reported by U.S. banks were reduced to remove certain bank custody liabilities to the Caribbean banking centers from 1986 forward. The removal is to avoid double counting, because these liabilities are covered by the newly substituted BIS data.

direct investment in the United States position; these detailed estimates by country and by industry are available only on a historical-cost basis.

Changes in U.S. Assets Abroad

Bank claims

U.S. bank-reported claims on foreigners decreased \$32.6 billion, to \$635.5 billion, the fourth consecutive annual decline. U.S. interbank claims fell sharply, particularly claims on Japan, as Japanese banks continued to cut back their international operations through U.S. offices. Also contributing to the decrease in claims was weakness in international bank credit demand, which resulted from economic recession in several industrial countries and an increase in borrowers' reliance on international securities markets.

A decrease of \$31.3 billion, to \$382.9 billion, in U.S. dollar claims on foreign banks largely reflected the cutback in Japanese banks' international operations. More generally, claims on Japan fell because of weak loan demand due to the slowing Japanese economy and, in the second half of the year, falling prices of Japanese securities. U.S. claims on Western Europe, particularly the United Kingdom, also decreased substantially, as weak international demand for bank credit and below-average yearend credit needs depressed lending. Partly offsetting these decreases, claims on Canada were bolstered by economic recovery there.

U.S. banks' dollar claims on foreign public borrowers and other private foreigners increased \$12.7 billion, to \$98.3 billion; the increase was more than accounted for by U.S. security dealers' lending, through resale agreements, to international mutual funds in the Caribbean and the United Kingdom. Banks' claims declined, especially on Latin American borrowers.

Banks' domestic customers' claims decreased \$13.4 billion, to \$92.0 billion, as deposits abroad and foreign commercial paper became less attractive to U.S. institutional investors. In particular, U.S. money market mutual funds cut their offshore depositing in half during the year. Attractive conditions in longer term securities markets and the relative drop in short-term interest rates abroad curtailed foreign placements of commercial paper in the United States.

Banks' claims payable in foreign currencies fell \$2.6 billion, to \$60.3 billion; moderate lending during much of the year was more than offset by a large repayment in the second quarter.

Foreign securities

U.S. portfolio holdings of foreign securities increased \$187.0 billion, to \$518.5 billion, bolstered by record net purchases and strong price appreciation,

especially in foreign stocks (Table 2-3).

U.S. institutional investors accelerated diversification into foreign securities, doubling their net purchases of foreign stocks and more than tripling their net purchases of foreign bonds:

- In 1993, large U.S. pension funds invested approximately \$54.0 billion abroad, or 8 percent of their assets, up from \$33.0 billion, or 5 percent, in 1992.¹
- Sales of shares by U.S. mutual funds investing abroad increased to \$28.0 billion in 1993, up from \$9.0 billion in 1992.²

Factors encouraging this movement were the exceptional price performance of many foreign stock markets relative to the U.S. market, the strong price performance of British gilt-edged bonds, and U.S. institutional demand for higher yielding foreign bonds as U.S. bond interest rates continued to fall. The steep drop in U.S. rates induced a record volume of newly issued bonds in the United States, bolstered by borrowers' refinancing of outstanding debt.

U.S. holdings of foreign stocks increased \$119.6 billion, to \$297.7 billion, mainly reflecting record net purchases and large price appreciation. Diversification by U.S. investors into foreign stocks accelerated, as many foreign stock markets substantially outperformed the U.S. market (Table 2-4).

- U.S. holdings of Western European stocks increased substantially. Net purchases were \$25.3 billion, and price appreciation was \$25.8 billion. Price advances ranged from 20 to 40 percent among most European markets, compared with only 7 percent in the U.S. market. Exchange rate losses, reflecting the dollar's strength against European currencies, reduced the gain by \$17.1 billion.
- U.S. holdings of Japanese stocks increased \$13.8 billion, as an 11-percent price advance early in the year and the strong yen attracted U.S. investors.

¹ *Pensions and Investments* 22, No. 2 (January 24, 1994).

² *Trends in Mutual Fund Activity* (Washington, DC: Investment Company Institute), various issues.

Table 2-3
Changes in U.S. Holdings of Foreign Securities,
1993
(Billions of dollars)

Total change	187.0
Net U.S. purchases	120.0
Price changes	82.2
Exchange rate changes	-15.2

Table 2-4
U.S. Holdings of Foreign Stocks by Major Areas
(Billions of dollars)

	1992	1993	Change
Total holdings	178.1	297.7	119.6
Western Europe	90.9	123.4	32.5
Of which:			
United Kingdom	29.0	41.9	12.9
Germany	14.5	23.0	8.5
Netherlands	11.6	18.0	6.4
France	11.5	16.3	4.8
Canada	14.8	23.1	8.3
Japan	28.9	42.7	13.8
Latin America	15.2	35.8	20.6
Other countries	28.3	72.7	44.4

The increase in holdings reflected net purchases of \$5.5 billion, price appreciation of \$2.8 billion, and exchange rate appreciation of \$4.1 billion.

- U.S. holdings of Canadian stocks increased \$8.3 billion, reflecting net purchases of \$5.1 billion, price appreciation of \$3.4 billion, attributable to a 20-percent rise in prices, and only small exchange rate depreciation.
- Increases in other U.S. holdings principally reflected investor interest in the newly emerging economies, where market prices increased 30 to 100 percent. In Latin America, holdings rose \$20.6 billion on net purchases of \$9.6 billion and price appreciation of \$10.2 billion, reflecting strong price advances in Mexico, Argentina, and Brazil. Holdings of stock from other countries--particularly the emerging Asian markets of Hong Kong, Singapore, Malaysia, Korea, Taiwan, and Thailand --rose an unprecedented \$44.5 billion on net purchases of \$12.4 billion and price appreciation of \$32.1 billion.

U.S. holdings of foreign bonds increased \$67.4 billion, to \$220.8 billion, largely reflecting record net purchases. New foreign bond issues in the United States were a record \$46.8 billion. Sharply lower U.S. interest rates, which reached a 20-year low, prompted sizable refinancings by many international borrowers. Canadian, Netherlands, and British corporate borrowers accounted for half of the step-up in new issues. Issues from Australia, Korea, Hong Kong, and several countries in Latin America also increased. Redemptions of outstanding dollar bonds reduced holdings by \$8.9 billion. U.S. net purchases of outstanding foreign bonds surged to \$21.5 billion, nearly all from the British gilt-edged market.

U.S. direct investment abroad and other private assets

U.S. direct investment abroad at current cost increased \$48.0 billion, to \$716.2 billion; at market value, it increased \$207.2 billion, to \$993.2 billion (Table 2-5). Capital outflows increased to a record \$57.9 billion as reinvested earnings nearly doubled, as equity outflows increased to a near-record, and as intercompany debt outflows declined slightly.

The increase in reinvested earnings reflected growth in affiliates' earnings in a few countries and a reduction in repatriated dividends to U.S. parents. By area, capital outflows strengthened to Europe, despite sluggish or negative economic growth there and declining costs for funding in several European countries. Outflows also strengthened to the Pacific Rim countries, where economic growth was buoyant, and to Latin America, where economic recovery was underway in several countries.

At current cost, capital outflows were partly offset by exchange rate losses, which reflected the translation of foreign affiliates' assets and liabilities from depreciating foreign currencies into U.S. dollars. At market value, the exchange rate losses were more than offset by substantial increases in U.S. owners' equity as a result of the sharp upswing in stock prices in most world markets.

U.S. claims on unaffiliated foreigners reported by U.S. nonbanking concerns increased \$0.6 billion, to \$254.5 billion. Financial claims, which accounted for four-fifths of total claims, decreased \$0.5 billion, but included sizable currency and geographic shifts. U.S. dollar claims on the United Kingdom and on the Caribbean banking centers were reduced, while foreign currency and, to a lesser extent, dollar claims on continental Europe and Asia increased. Commercial claims increased \$1.1 billion, primarily in the first quarter, as weakness through the year reflected the slowdown in U.S. export growth.

Table 2-5
Changes in U.S. Direct Investment Abroad, 1993
(Billions of dollars)

	At current cost	At market value
Total change	48.0	207.2
Capital outflows	57.9	57.9
Equity capital	17.4	17.4
Intercompany debt	10.9	10.9
Reinvested earnings	29.6	29.6
Price changes	2.8	166.9
Exchange rate changes	-10.3	-18.4
Other valuation changes	-2.4	0.8

U.S. official reserve assets and other U.S. Government assets

U.S. official reserve assets increased \$17.5 billion, to \$164.9 billion, mainly reflecting price appreciation of U.S. gold-reserve assets. U.S. gold-reserve assets increased \$15.4 billion, to \$102.6 billion, as a result of an 18-percent increase in the price of gold. U.S. foreign-currency reserves increased \$1.5 billion, to \$41.5 billion; small capital outflows, representing the accumulation of holdings from interest earnings on those reserves, were partly offset by intervention sales of yen in the second and third quarters. Valuation changes mostly reflected appreciation in yen holdings.

U.S. Government assets other than official reserve assets increased \$0.2 billion, to \$80.9 billion; increases in U.S. Government credits and other assets slowed sharply, as fewer credits were rescheduled and new credit disbursements declined. Partly offsetting the overall decline in credit disbursements were large disbursements to the Government of the Russian Federation that represented the consolidation and rescheduling of certain claims against the former Soviet Union; the U.S. Government also acquired outstanding claims on the former Government that were held by U.S. banks.

Changes in Foreign Assets in the United States

Foreign official assets

Foreign official assets in the United States increased \$73.9 billion, to \$516.9 billion. Most of this growth was accounted for by record capital inflows, mostly in the acquisition of short-term U.S. Treasury obligations and U.S. bank deposits; price appreciation in U.S. stocks also contributed. Industrial countries added \$38.9 billion through purchases of U.S. assets, mostly by Western European countries late in the year and by Asian countries in the middle of the year. Non-OPEC developing countries, primarily in Latin America and the Pacific Rim, added \$36.6 billion to their U.S. assets. Some Latin American countries may have invested unused proceeds from international debt issues in the United States. OPEC members drew down their U.S. assets by \$3.8 billion.

Bank liabilities

U.S. liabilities to private foreigners and to international financial institutions reported by U.S. banks increased \$20.9 billion, to \$672.0 billion.

U.S. banks' own liabilities payable in dollars increased \$1.4 billion, to \$556.6 billion; the small change reflected two nearly offsetting developments

among foreign-owned banks in the United States. On the one hand, U.S. offices of European and Canadian banks financed a moderate expansion of their U.S. assets through borrowing from unaffiliated foreign banks, mostly in the second half of the year. On the other hand, nearly offsetting this increase was a further rundown in liabilities of U.S. offices of Japanese banks to own foreign offices in Japan, as Japanese banks' withdrawal from the international interbank market continued.

U.S. banks' own liabilities payable in foreign currencies increased \$4.8 billion, to \$77.6 billion; most borrowing was from Western Europe in the first and third quarters to fund surges in foreign currency lending abroad.

Banks' custody liabilities increased \$12.3 billion, to \$37.8 billion, as a result of inflows into negotiable certificates of deposit from the United Kingdom; these inflows were primarily in the second half of the year, when the foreign-owned banks in the United States drew funds from unaffiliated banks abroad.

U.S. Treasury securities

U.S. Treasury securities held by private foreigners and international financial institutions increased \$29.2 billion, to \$254.1 billion (Table 2-6).

A strong rise in U.S. Treasury bond prices through August and the U.S. dollar's strength against the Canadian dollar and continental European currencies contributed to heavy purchases. However, net purchases slowed late in the year as bond prices weakened and as Canadian and continental European purchasers shifted to U.S. corporate bonds. International bond funds in the Caribbean continued to reduce their holdings in 1993, as they had in 1992.

Other U.S. securities

Foreign holdings of U.S. securities other than U.S. Treasury securities increased \$112.2 billion, to \$733.2 billion, as strong foreign demand more than doubled net purchases to a record (Table 2-7).

Demand accelerated throughout the year as a result of several factors: Buoyant prices in U.S. securities markets, steeply falling U.S. bond interest rates, low U.S. inflation, dollar appreciation against most major currencies, and strong economic growth in the

Table 2-6
Changes in Foreign Holdings of U.S. Treasury Securities, 1993
(Billions of dollars)

Total change	29.2
Net foreign purchases	24.8
Price changes	4.4
Exchange rate changes	0.0

Table 2-7
Changes in Foreign Holdings of Other U.S.
Securities, 1993
(Billions of dollars)

Total change	112.2
Net foreign purchases	80.1
Price changes	33.4
Exchange rate changes	-1.3

final quarter, when foreign purchases of stocks rose sharply.

Foreign holdings of U.S. stocks increased \$39.8 billion--\$18.6 billion in strong net purchases and \$21.2 billion in price appreciation--to \$340.0 billion. Net foreign purchases resumed for the year, encouraged by a 7-percent rise in U.S. stock prices, by dollar appreciation, and by strong economic growth in the fourth quarter, when two-thirds of net purchases occurred. However, considerably stronger price performance in many foreign stock markets was a limiting factor. Net purchases included a heavy volume of initial public offerings in the United States and an increase in U.S. Euro-equities issued abroad. Holdings of Western European and Japanese investors reflected their switch to net purchases in 1993 after net sales in 1992. Latin American investors, especially international funds in the Caribbean, significantly stepped up their purchases.

Foreign holdings of U.S. corporate and federally-sponsored agency bonds increased \$72.4 billion, to \$393.2 billion, as a result of record net purchases of \$61.5 billion and price appreciation of \$12.2 billion. Foreign demand was especially strong for U.S. fixed-rate securities. In a falling interest rate environment, U.S. borrowers were encouraged to refinance outstanding high-cost debt, and they stepped up new issues both domestically and abroad. U.S. offshore new issues increased \$10.6 billion, to \$34.0 billion; issues consisted mostly of straight fixed-rate bonds issued by nonbank financial corporations, which financed renewed growth in consumer credit demand. Later in the year, medium-term notes and floating-rate notes were also used to accommodate investor concern of a possible upturn in interest rates. Foreigners also added substantially to their holdings of mortgage-backed securities issued and guaranteed by U.S. federally-sponsored agencies; net purchases were a record \$32.1 billion, largely from the United Kingdom, Japan, other Asia, and investment funds in the Caribbean.

Foreign direct investment in the United States and other liabilities

Foreign direct investment in the United States at current cost increased \$19.7 billion, to \$516.7 billion; at

market value, it increased \$48.8 billion, to \$745.8 billion (Table 2-8). As a share of the U.S. private sector's net worth excluding households' net assets, these investments accounted for 9.1 percent on a current-cost basis and 13.1 percent on a market-value basis at yearend.³

Net capital inflows recovered: Equity inflows slowed slightly; intercompany debt shifted to inflows, and negative reinvested earnings slowed. Japanese parent firms, faced with depressed earnings in Japan, drew heavily from their U.S. affiliates, which paid dividends in excess of earnings. Capital inflows from Europe partly reflected stronger economic growth in the United States than in most European countries. Capital inflows also reflected a step-up in diversification into U.S. investments by foreign multinationals, as their U.S. acquisitions and establishments in 1993 accelerated sharply.⁴ On a market-value basis, the advance in U.S. stock prices resulted in a further substantial increase in owners' equity.

Liabilities to unaffiliated foreigners reported by U.S. nonbanking concerns increased \$12.6 billion, to \$233.3 billion. Financial liabilities increased \$10.8 billion, primarily in the second and fourth quarters, when U.S. short-term interest rates turned upward. U.S. nonbanks borrowed from banks in the United Kingdom and from Asian banking centers while, to a much lesser extent, repaying loans from banks in the Caribbean; most new borrowing was through the issuance of Eurocommercial paper. Commercial liabilities increased \$3.5 billion, including increased margins in the U.S. futures markets by Western Europeans that were partly offset by a small decline in U.S. trade payables.

³ Board of Governors of the Federal Reserve System, *Balance Sheets for the U.S. Economy*, Publications C.9 (Washington, DC: March 1991). Sector estimates of U.S. domestic net worth by the Federal Reserve Board, which include net tangible assets at current cost, are calculated as total tangible and financial assets less total liabilities.

⁴ See Chapter 4 of this report: "U.S. Business Enterprises Acquired or Established by Foreign Direct Investors in 1993."

Table 2-8
Changes in Foreign Direct Investment in the
United States, 1993
(Billions of dollars)

	At current cost	At market value
Total change	19.7	48.8
Capital inflows	21.4	21.4
Equity capital	21.7	21.7
Intercompany debt	9.1	9.1
Reinvested earnings	-9.4	-9.4
Price changes	-0.1	26.2
Exchange rate changes	-0.4	0.0
Other valuation changes	-1.4	1.3

Foreign Direct Investment Positions in the United States on a Historical-Cost Basis, 1993--Country and Industry Detail

by Sylvia E. Bargas*

This chapter presents the country and industry detail underlying the foreign direct investment position in the United States for 1993 on a historical-cost, or book value, basis. This basis is the only one on which detailed estimates of the position are available by country and industry.¹ (Aggregate estimates of the investment positions on the current-cost and market-value bases are presented in Chapter 2 of this report: "The International Investment Position of the United States in 1993".) Table 3-1 shows the aggregate direct investment positions on all three valuation bases.

In the analysis that follows, information from outside sources, mainly press reports, has been used to assist in the analysis and interpretation of the direct investment position data.

Table 3-1
Foreign Direct Investment Positions in the United States, Alternative Estimates, 1992 and 1993
(Billions of dollars)

Valuation method	Position at year-end 1992 ^c	Changes in 1993 (decrease (-))			Position at year-end 1993 ^b
		Total	Capital flows	Valuation adjustments	
Historical cost ..	425.6	19.6	22.6	-3.0	445.3
Current cost	497.1	19.7	21.4	-1.7	516.7
Market value	696.8	48.8	21.4	27.4	745.6

* The author is an economist in the International Investment Division, Bureau of Economic Analysis, Economics and Statistics Administration, U.S. Department of Commerce. This chapter was previously published as part of an article in the *Survey of Current Business*, June 1994. Gregory G. Fouch--assisted by Peter J. Fox, Nancy F. Halvorson, Tracy K. Leigh, Beverly E. Palmer, and Linden L. Webber--conducted the survey from which the foreign direct investment position in the United States data were drawn. D. Richard Mauery programmed the tables.

¹ Estimates on a historical-cost basis largely reflect prices at the time of investment rather than prices of the current or any other period. Historical cost is the basis used for valuation in company accounting records in the United States and is the only basis on which companies can report data in the direct investment surveys conducted by the Bureau of Economic Analysis (BEA). (For consistency, the estimates of earnings and reinvested earnings used in analyzing changes in the historical-cost positions are also on this basis and are not adjusted to current cost; detailed estimates of these items, like the positions, are not available with such an adjustment.)

Factors Affecting the Position

The foreign direct investment position in the United States valued at historical cost--the book value of foreign direct investors' equity in, and net outstanding loans to, their U.S. affiliates--was \$445.3 billion at the end of 1993 (Figure 3-1 and Tables 3-2 and 3-3).² For the second consecutive year, Japan's position--\$96.2 billion, or 22 percent of the total--was the largest. The United Kingdom had the second largest position--\$95.4

² A U.S. affiliate is a U.S. business enterprise in which a single foreign direct investor owns at least 10 percent of the voting securities, or the equivalent.

Figure 3-1

The Direct Investment Positions on a Historical-Cost Basis, 1982-93

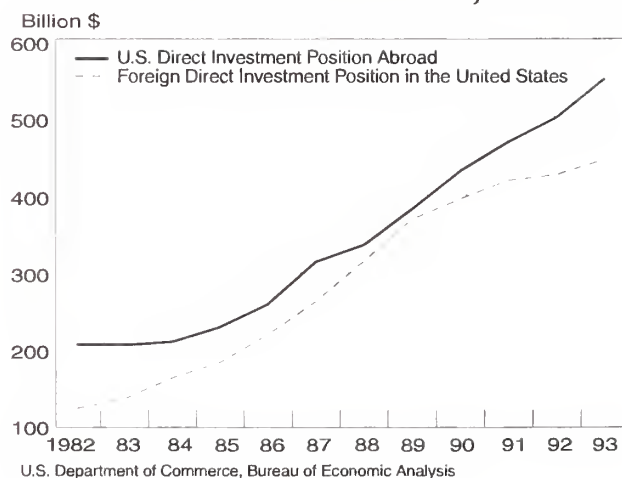
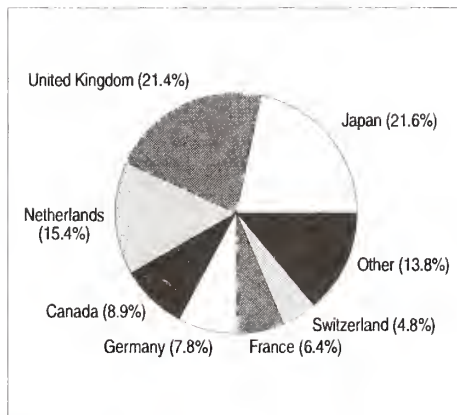


Table 3-2
Foreign Direct Investment Position in the United States on a Historical-Cost Basis, Year-end 1982-93
(Billions of dollars)

1982	124.7	1988	314.8
1983	137.1	1989	368.9
1984	164.6	1990	394.9
1985	184.6	1991	418.8
1986	220.4	1992	425.6
1987	263.4	1993	445.3

Figure 3-2

Foreign Direct Investment Position in the United States, 1993: Shares of Investor Countries



U.S. Department of Commerce, Bureau of Economic Analysis

billion, or 21 percent of the total--and the Netherlands had the third largest--\$68.5 billion, or 15 percent of the total (Figure 3-2).

In 1993, the overall position increased \$19.6 billion, or 5 percent, compared with a 2-percent increase in 1992 and a 6-percent increase in 1991. The following tabulation shows the change in position by type of capital flow and valuation adjustment:

Change in 1993 (Billions of dollars)

Total	19.6
Capital inflows	22.6
Equity capital	21.7
Intercompany debt	9.1
Reinvested earnings	-8.1
Valuation adjustments	-3.0
Currency translation	-.4
Other	-2.6

The increase in the position resulted from improvements in foreigners' incentive and ability to invest in the United States. Foreigners' incentive to invest was enhanced by the continued growth of the U.S. economy. Their ability to invest was strengthened by improved business conditions in certain major investor countries, such as the United Kingdom, which raised the earnings of foreign parents in those countries. The impact of these factors can also be seen in the total outlays by foreign investors to acquire or establish U.S. businesses: In 1993, such outlays, including those financed by equity capital inflows, rose 71 percent after having decreased 40 percent in 1992.³

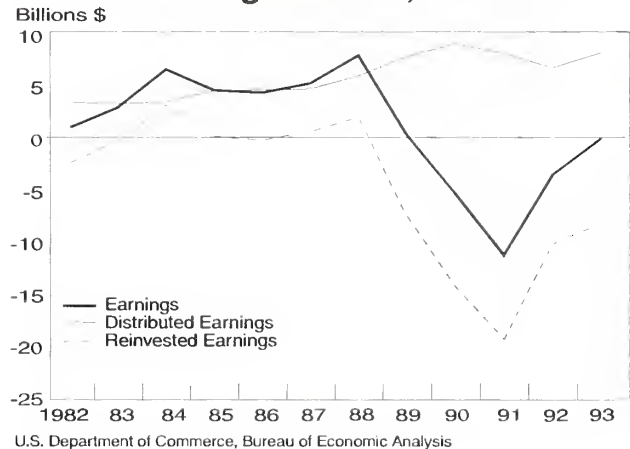
The 5-percent increase in the position in 1993 is in line with the average rate of growth over the previous 2 years, but it remains well below the rates of growth

during 1982-90, when annual increases averaged 16 percent. Among the factors limiting growth in the position in 1993 were continued economic weakness in Japan, the largest investor country, and competition for investable funds from a number of other areas, such as Europe, Latin America, and the Pacific Rim, that also offered attractive investment opportunities.

For the fifth consecutive year, growth in the position was reduced by negative reinvested earnings, which occur when affiliates incur losses or pay dividends to their foreign parents in excess of their current earnings.⁴ During the 5-year period, U.S. affiliates maintained relatively stable earnings distributions despite sharp declines in earnings, which turned to losses in 1990 (Figure 3-3). Earnings began to recover in 1992, and by

Figure 3-3

Earnings, Distributed Earnings, and Reinvested Earnings of U.S. Affiliates of Foreign Parents, 1982-93



U.S. Department of Commerce, Bureau of Economic Analysis

³ For a discussion of these and other factors affecting new foreign direct investment in the United States, see Chapter 4 in this report: "U.S. Business Enterprises Acquired or Established by Foreign Direct Investors in 1993. Preliminary data from BEA's survey of new foreign direct investments, summarized in that chapter, indicate that total outlays to establish or acquire U.S. businesses were \$26.2 billion in 1993, up from \$15.3 billion in 1992. These figures differ from those on changes in the foreign direct investment position presented here largely because they cover only transactions involving the acquisition or establishment of new U.S. affiliates and because they include financing other than that from the foreign parent, such as local borrowing by existing U.S. affiliates. In contrast, changes in the position reflect transactions of existing, as well as new, U.S. affiliates (but only if the transactions are with the foreign parent or other members of the foreign parent group) and valuation adjustments.

Notwithstanding their differences, the two types of data are related. Any outlays to acquire or establish U.S. businesses that are funded by foreign parents (or other members of the foreign parent group) are part of capital inflows, a component of the change in the position. Data on the sources of funding of outlays to acquire or establish new U.S. affiliates indicate that foreign parent groups funded \$11.8 billion of such outlays in 1993, compared with \$7.8 billion in 1992.

⁴ For direct investment in the United States, negative reinvested earnings represent an outflow of investment capital, which reduces the position.

1993 they were once again positive, though barely. Reinvested earnings also increased, but were still negative in 1993. By country, Japan accounted for over one-half of total negative reinvested earnings in 1993, as Japanese parent companies, faced with poor business conditions at home, turned to their U.S. affiliates for funds. By industry, affiliates' negative reinvested earnings were fairly widespread, but were highest in real estate and machinery manufacturing.

Changes in Position by Country and Industry

The \$19.6 billion increase in the 1993 position was fully accounted for by European investors, whose position rose 8 percent. Within Europe, parents in the United Kingdom had the largest increase, followed by parents in Germany, the Netherlands, and France. Outside Europe, the position of Canada increased, while the position of Japan decreased. In Other Western Hemisphere, a relatively small increase in the position was the net result of a number of considerably larger, offsetting changes among countries in the area; most of the largest changes were in finance (except banking) (hereinafter referred to as "finance").

The position of British parents increased \$6.3 billion, or 7 percent. The largest increases were in finance, chemicals, and "other" industries. In finance, the increase was in the form of debt, as affiliates borrowed funds from their British parents. In chemicals, nearly one-half of the increase was accounted for by (positive) reinvested earnings of companies engaged primarily in the manufacture of pharmaceuticals. In "other" industries, equity capital inflows accounted for most of the increase; included in equity capital inflows was a \$0.4 billion inflow resulting from a British

company's acquisition of a minority interest in an air transportation company.

The position of German parents increased \$5.1 billion, or 17 percent. The largest increases were in finance and in chemicals. In finance, the increase resulted from debt repayments by foreign parents; in chemicals, it was due to affiliates' borrowing from foreign parents.

The position of Netherlands parents increased \$3.2 billion, or 5 percent. "Other" industries and banking had the largest increases. In "other" industries, the increase was due to borrowing from foreign parents. Nearly one-half of the increase in banking resulted from the elimination of negative positions in affiliates that were liquidated.

The position of French parents increased \$3.0 billion, or 12 percent. Three-fourths of the increase was in finance and resulted from repayments by French parents of funds borrowed from their affiliates.

The position of Canadian parents increased \$1.6 billion, or 4 percent. Increases in insurance and finance were partly offset by a decrease in "other" industries. In both insurance and finance, the increases were about evenly distributed between equity inflows, debt inflows, and (positive) reinvested earnings. The decrease in "other" industries was mostly attributable to the repayment of loans from foreign parents.

The position of Japanese parents declined \$1.3 billion, or 1 percent. The decline was spread among several industries; the largest declines were in finance, real estate, and "other" industries. In finance, the decrease was more than accounted for by debt outflows, as affiliates made loans to their parents. The declines in real estate and "other" industries were more than accounted for by negative reinvested earnings, as affiliates paid dividends to their parents even though they had negative earnings. Only in wholesale trade and banking were there significant increases, which reflected sizable capital contributions by Japanese parents to their affiliates.

Table 3-3.—Foreign Direct Investment Position in the United States on a Historical-Cost Basis at Yearend

[Millions of dollars]

	1992									1993								
	All industries	Petroleum	Manufacturing	Trade	Banking	Finance, except banking	Insurance	Real estate	Other industries	All industries	Petroleum	Manufacturing	Trade	Banking	Finance, except banking	Insurance	Real estate	Other industries
All countries	425,836	34,347	163,354	69,005	28,311	17,683	34,265	29,915	50,756	445,268	32,647	166,698	69,720	31,026	26,542	39,154	28,609	50,872
Canada	37,845	1,849	17,005	2,101	2,148	2,272	2,883	4,751	5,039	39,408	1,991	16,600	1,839	2,289	3,348	4,338	4,891	4,314
Europe	251,206	28,008	117,617	27,808	11,584	-480	28,335	11,102	29,234	270,767	24,979	122,590	27,993	14,724	7,772	30,770	10,850	31,989
Austria	518	0	148	127	113	114	(¹)	1	16	557	0	164	141	(¹)	(¹)	(¹)	1	16
Belgium	4,288	(¹)	1,502	1,209	(¹)	-156	(¹)	64	87	4,589	(¹)	1,879	983	(¹)	-153	(¹)	61	9
Denmark	1,508	4	549	(¹)	270	(¹)	0	0	319	833	5	513	(¹)	241	(¹)	0	0	(¹)
Finland	1,416	(¹)	1,076	18	89	(¹)	196	-2	27	1,500	50	1,087	24	104	(¹)	150	(¹)	(¹)
France	25,459	50	17,563	1,740	1,740	-2,435	1,667	122	5,011	28,470	60	16,937	1,880	2,004	-161	2,314	47	5,389
Germany	29,603	664	15,376	7,540	961	-2,484	4,550	1,039	1,956	34,667	(¹)	17,852	7,304	1,972	35	4,507	1,074	(¹)
Ireland	2,750	(¹)	515	180	(¹)	360	54	(¹)	(¹)	2,593	(¹)	407	(¹)	(¹)	443	(¹)	128	(¹)
Italy	274	132	208	432	598	(¹)	(¹)	22	-88	1,229	127	439	507	542	-477	(¹)	(¹)	-116
Liechtenstein	40	(¹)	30	48	1	(¹)	0	-2	-5	-15	-6	25	46	2	-33	0	-38	0
Luxembourg	730	(¹)	316	(¹)	-2	106	10	106	(¹)	990	(¹)	823	(¹)	-5	113	(¹)	107	(¹)
Netherlands	65,323	11,783	22,994	7,252	2,556	2,851	6,677	4,625	6,586	68,477	12,424	22,856	7,713	3,537	2,590	7,117	4,487	7,752
Norway	709	38	404	(¹)	19	-3	(¹)	(¹)	35	844	35	302	(¹)	(¹)	-3	(¹)	(¹)	255
Spain	1,546	0	72	187	960	(¹)	(¹)	3	10	623	(¹)	4	162	1,181	(¹)	191	(¹)	20
Sweden	6,850	(¹)	4,909	757	123	(¹)	1,266	348	-273	8,077	(¹)	5,384	765	128	-443	(¹)	430	1,920
Switzerland	20,635	52	11,088	782	(¹)	1,423	4,005	(¹)	1,775	21,384	366	11,299	709	1,610	1,061	4,417	1	1,920
United Kingdom	89,073	10,901	40,777	6,784	1,745	1,383	9,468	4,528	13,487	95,415	9,367	42,543	6,934	2,123	6,432	10,487	4,422	13,106
Other	465	(¹)	91	196	135	(¹)	0	7	8	537	(¹)	76	258	153	(¹)	0	6	7
Latin America and Other Western Hemisphere	21,098	2,288	8,836	2,910	2,049	1,462	2,316	2,054	1,382	20,342	1,236	5,219	2,348	2,259	3,724	3,061	1,682	813
South and Central America	7,790	841	1,243	215	1,749	1,127	(¹)	170	(¹)	6,604	-608	866	-89	1,935	1,210	(¹)	221	(¹)
Brazil	574	(¹)	-92	23	600	0	(¹)	7	-14	714	(¹)	-80	34	692	-1	(¹)	7	(¹)
Mexico	1,230	2	582	193	187	12	0	54	200	1,039	(¹)	453	-49	198	44	0	51	341
Panama	5,040	(¹)	734	12	(¹)	1,108	(¹)	56	82	4,754	(¹)	453	-7	(¹)	1,134	(¹)	114	103
Venezuela	440	(¹)	45	-7	(¹)	1	0	22	(¹)	-398	(¹)	50	-9	(¹)	-1	0	21	(¹)
Other	507	(¹)	-27	-4	535	7	(¹)	31	0	494	(¹)	-10	-58	559	33	(¹)	29	-1
Other Western Hemisphere	13,308	1,447	5,393	2,695	300	335	(¹)	1,884	(¹)	13,739	1,843	4,353	2,437	324	2,514	(¹)	1,461	(¹)
Bahamas	2,779	(¹)	-2	115	0	2,463	0	52	(¹)	1,184	(¹)	2	0	732	0	0	61	(¹)
Bermuda	1,473	-31	1,009	(¹)	(¹)	(¹)	59	79	185	1,442	-6	528	450	(¹)	(¹)	(¹)	160	184
Netherlands Antilles	8,618	1,480	4,004	1,437	164	315	(¹)	604	(¹)	6,984	1,593	3,270	1,319	174	178	(¹)	271	(¹)
U. K. Islands, Caribbean	-38	(¹)	366	763	(¹)	-2,545	3	975	208	3,511	(¹)	529	522	(¹)	1,546	7	782	-183
Other	476	(¹)	16	(¹)	(¹)	(¹)	47	173	(¹)	617	(¹)	23	(¹)	(¹)	(¹)	(¹)	187	(¹)
Africa	723	(¹)	(¹)	(¹)	19	(¹)	0	5	(¹)	805	(¹)	(¹)	(¹)	13	(¹)	0	75	(¹)
South Africa	-20	0	-8	(¹)	-3	0	0	(¹)	(¹)	-7	0	7	(¹)	(¹)	0	0	(¹)	(¹)
Other	743	(¹)	(¹)	-174	22	(¹)	0	5	179	812	(¹)	(¹)	(¹)	(¹)	(¹)	0	75	(¹)
Middle East	4,788	(¹)	(¹)	(¹)	789	(¹)	2	1,141	(¹)	5,027	(¹)	(¹)	(¹)	775	(¹)	3	1,037	(¹)
Israel	1,284	0	49	(¹)	621	(¹)	0	-2	(¹)	1,712	0	372	(¹)	580	(¹)	0	-3	(¹)
Kuwait	1,643	(¹)	398	(¹)	(¹)	(¹)	2	1,158	(¹)	1,555	(¹)	(¹)	(¹)	(¹)	(¹)	3	1,071	(¹)
Lebanon	-29	0	(¹)	0	0	0	0	-37	0	-35	0	0	0	0	0	0	-44	0
Saudi Arabia	1,688	(¹)	(¹)	(¹)	23	(¹)	0	27	(¹)	1,591	(¹)	(¹)	(¹)	28	-1	0	21	(¹)
United Arab Emirates	93	-6	-1	(¹)	7	0	0	91	(¹)	107	-3	(¹)	(¹)	(¹)	0	0	1	(¹)
Other	106	(¹)	(¹)	3	(¹)	4	0	-6	-7	98	2	-2	4	110	4	0	-10	-9
Asia and Pacific	109,978	2,830	21,768	35,642	9,723	13,809	730	10,861	14,816	108,918	2,788	21,618	36,911	10,966	11,133	982	10,274	14,246
Australia	7,069	2,493	2,124	(¹)	-103	(¹)	177	282	1,536	7,278	2,513	2,234	(¹)	144	(¹)	224	175	1,491
Hong Kong	1,842	-3	237	832	241	237	2	230	66	2,015	7	331	893	244	328	1	233	-21
Japan	97,537	140	18,321	33,821	8,809	13,087	486	9,909	12,964	96,213	254	17,746	34,754	9,803	11,151	686	9,460	12,359
Korea, Republic of	823	-2	-16	169	(¹)	(¹)	(¹)	14	795	6	-113	6	101	(¹)	(¹)	(¹)	13	176
Malaysia	73	0	22	56	1	0	0	2	-7	250	0	50	81	(¹)	-1	0	3	(¹)
New Zealand	69	0	72	-1	2	-27	(¹)	28	(¹)	104	0	105	(¹)	(¹)	-27	29	15	(¹)
Philippines	68	0	6	-2	47	0	(¹)	-2	(¹)	67	0	3	(¹)	57	0	(¹)	-2	(¹)
Singapore	873	4	342	42	53	55	(¹)	372	5	228	10	434	64	62	(¹)	-1	355	(¹)
Taiwan	1,117	0	530	192	220	(¹)	(¹)	19	81	1,272	-1	570	220	254	(¹)	(¹)	23	105
Other	506	-2	129	43	284	28	(¹)	6	(¹)	694	-2	259	147	265	(¹)	(¹)	-3	(¹)
Addenda:																		
European Union ¹	220,628	25,577	99,870	25,769	9,781	-1,420	22,755	10,650	27,647	237,960	24,226	104,252	25,932	12,619	7,200	24,802	10,433	28,495
OPEC ²	3,981	1,888	31	(¹)	272	(¹)	(¹)	1,221	134	2,959	857	78	(¹)	306	(¹)	3	1,123	151

¹ Less than \$500,000 (\pm).² Suppressed to avoid disclosure of data of individual companies.

NOTE.—Historical cost is the only basis on which detailed estimates of the position are available by country and by industry.

1. Prior to 1993, the European Union was known as the European Communities (12). The European Union comprises Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, and the United Kingdom.

2. OPEC is the Organization of Petroleum Exporting Countries. Its members are Algeria, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. Prior to 1993, Ecuador was also a member of OPEC; data for it are included in the 1992, but excluded from the 1993, data in this line.

U.S. Business Enterprises Acquired or Established by Foreign Direct Investors in 1993

by Mahnaz Fahim-Nader*

In 1993, after declining for 4 years, outlays by foreign investors for acquiring and establishing U.S. business enterprises increased sharply. The outlays, which consist of those made directly and those made through existing U.S. affiliates, increased 71 percent, to \$26.2 billion from \$15.3 billion in 1992 (Table 4-1).¹

Outlays financed with funds from foreign parents, rather than from U.S. or other foreign sources, increased \$4.0 billion, contributing to the sharp overall increase in net capital inflows for foreign direct investment in the United States recorded in the U.S. balance of payments accounts.² The rate of increase in outlays was roughly in line with that in overall merger and acquisition activity in the United States.³ However, despite the increase, outlays remained well below the levels of 1987-90, when they ranged from \$40 billion to over \$70 billion.

By industry, increases in outlays were particularly large in manufacturing, services, and retail trade. Outlays decreased in real estate and "other industries."

By country of ultimate beneficial owner (UBO), increases in outlays were largest by UBO's in the United Kingdom and Canada; the United Kingdom alone accounted for over 60 percent of the total increase.⁴ Outlays for Japan declined for the third year in a row.

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The 71-percent increase in outlays in 1993 followed a 40-percent decrease in 1992. The turnaround was partly attributable to a number of factors that increased foreign investors' ability and incentive to

¹ These data are from BEA's annual survey of new foreign direct investments in the United States, which covers (1) existing U.S. business enterprises in which foreign investors acquired, directly or through their U.S. affiliates, at least a 10-percent voting interest, and (2) new U.S. business enterprises established by foreign investors or their U.S. affiliates. Acquisitions of additional equity or voting interests in existing U.S. affiliates are not covered.

The data are limited to U.S. business enterprises that had total assets of over \$1 million or that owned at least 200 acres of U.S. land in the year they were acquired or established. U.S. enterprises that did not meet these criteria were required to file partial reports, primarily for identification purposes, but the data from these reports are not included in the accompanying tables. For 1993, total assets of the U.S. enterprises that filed partial reports were only \$102.3 million, or about 0.1 percent of the total assets of \$97.1 billion of the U.S. enterprises that met the criteria for filing a complete report.

² In addition to outlays from foreign parents to acquire or establish U.S. affiliates, net capital inflows for foreign direct investment in the United States reflect (and in 1993 were largely accounted for by) foreign parents' financing of their existing U.S. affiliates.

³ A Securities Data Company news release dated December 31, 1993, indicates that the "total deal value" of all U.S. companies targeted for merger and acquisition increased 80 percent in 1993.

⁴ The transactions discussed in this article are classified by country of UBO. The UBO is the first person in the ownership chain of the acquired or established U.S. business, beginning with the foreign parent, that is not owned more than 50 percent by another person. The foreign parent is the first foreign person in the ownership chain. The country of UBO is often the same as that of the foreign parent, but it may be a different foreign country or the United States. "Person" is broadly defined to include any individual, corporation, branch, partnership, associated group, association, estate, trust, or other organization and any government (including any corporation, institution, or other entity or instrumentality of a government).

Table 4-1
Investment Outlays, Investments, and Investors, 1987-93

	Outlays (millions of dollars)							Number						
	1987	1988	1989	1990	1991	1992 ^r	1993 ^p	1987	1988	1989	1990	1991	1992 ^r	1993 ^p
Investments, total	40,310	72,692	71,163	65,932	25,538	15,333	26,182	978	1,424	1,580	1,617	1,091	941	1,009
Acquisitions	33,933	64,855	59,708	55,315	17,806	10,616	23,055	543	869	837	839	561	463	553
Establishments	6,377	7,837	11,455	10,617	7,732	4,718	3,126	435	555	743	778	530	478	456
Investors, total	40,310	72,692	71,163	65,932	25,538	15,333	26,182	1,051	1,542	1,742	1,768	1,220	1,019	1,171
Foreign direct investors ..	11,773	18,569	22,538	14,026	8,885	4,058	6,596	480	566	727	670	438	350	379
U.S. affiliates	28,536	54,123	48,625	51,906	16,653	11,275	19,586	571	976	1,015	1,098	782	669	792

^r revised, ^p preliminary.

invest in the United States. First, the economic expansion in the United States that began in early 1991 continued through 1993. Second, business conditions remained poor in many foreign countries, but they improved significantly in the United Kingdom and Canada, traditionally two of the largest investor countries; as a result, the earnings of companies in these countries (and therefore the funds available to them for investing in the United States) increased. Third, borrowing conditions in the United States improved in 1993, as evidenced by the decline in long-term U.S. interest rates and the increase in new foreign bond issues to record levels here. In addition, foreign multinational companies' desire to expand geographically and to gain additional markets in industries that complement their core businesses led to a number of acquisitions of U.S. companies. Some of these companies were acquired when U.S. conglomerates divested themselves of companies that were unrelated to their core businesses.

As in past years, acquisitions of existing companies, rather than establishments of new companies, accounted for most of total outlays (88 percent) in 1993. Large investments did not dominate outlays to the extent that they have in some years, but they played a more prominent role in 1993 than in 1992. In 1993, 49 investments of \$100 million or more accounted for 73 percent of outlays; among these were two investments of \$1 billion or more. In contrast, in 1992, there were no investments of \$1 billion or more and only 28 investments of \$100 million or more (Tables 4-2 and 4-3). The 28 investments accounted for 42 percent of outlays.

U.S. affiliates that were newly acquired or established in 1993, nearly all of which were nonbank affiliates, employed 313,000 persons. By comparison, all nonbank U.S. affiliates employed 4.8 million persons in

Table 4-2
Number of Investments by Size of Outlays,
1987-93

	1987	1988	1989	1990	1991	1992 ^r	1993 ^p
Total.....	978	1,424	1,580	1,617	1,091	941	1,009
\$2 billion or more	1	5	4	5	1	0	1
\$1 - \$1.9 billion ..	5	7	6	6	1	0	1
\$100 - \$999 million	70	98	110	74	45	28	47
\$10 - \$99 million .	291	429	483	499	273	252	281
Less than \$10 million	611	885	977	1,033	771	661	679

^r revised, ^p preliminary.

⁵ The estimates for 1991 of nonbank affiliates' employment and of manufacturing affiliates' assets, as well as their shares in the comparable all-U.S.-business totals, are from "U.S. Affiliates of Foreign Companies: Operations in 1991," *Survey of Current Business* 73 (May 1993): 89-112. Preliminary estimates for 1992, based on the 1992 benchmark survey of foreign direct investment in the United States, appear in Chapter 5 of this report: "Foreign Direct Investment in the United States: 1992 Benchmark Survey Results."

1991, the latest year for which such data are available; total nonbank affiliate employment, in turn, accounted for 5.2 percent of total employment by all nonbank U.S. businesses in 1991.⁵

Newly acquired or established affiliates had total assets of \$97.1 billion in 1993, of which \$86.2 billion was held by nonbank affiliates. By comparison, total assets of all nonbank U.S. affiliates at yearend 1991 were \$1,744 billion. In manufacturing, the only industry for which comparable all-U.S.-business data on assets are available, total assets of newly established or acquired affiliates were \$15.8 billion in 1993; by comparison, total assets of all manufacturing affiliates were \$516.7 billion in 1991, or 19.2 percent of total U.S. manufacturing assets.

The estimates for 1993 are preliminary and will be revised next year. Estimated outlays for 1992 have been revised from \$13.5 billion to \$15.3 billion (Tables 4-1 and 4-2). The largest revisions in outlays were in services (up \$0.5 billion), banking (up \$0.5 billion), primary and fabricated metals (up \$0.4 billion), and machinery (up \$0.3 billion).⁶

The remainder of this chapter consists of two parts. The first part discusses investment transactions by industry, by country, and by source of funding; the second part presents selected data on the operations of the U.S. businesses acquired or established. In the discussion, information from outside sources, mainly press reports, has been used to assist in the analysis and interpretation of the survey results.

Table 4-3
Percent Change from Preceding Year in
Investment Outlays and Number of Investments,
1988-93

	1988	1989	1990	1991	1992 ^r	1993 ^p
Investment outlays.....	80	-2	-7	-61	-40	71
Number of investments	46	11	2	-33	-14	7

Addenda--Percent of total
outlays accounted for by:

Investments of \$1 billion or more	40	36	40	12	0	19
Investments of \$100 million or more	78	74	73	59	42	73

^r revised, ^p preliminary.

⁶ The revision in banking largely reflected a change in industry definition: In previous estimates, "banking" was primarily composed of commercial banks; most other depository institutions, such as savings institutions and credit unions, were included in "finance (except banking)." Beginning with the estimates for 1992 published in this article, "banking" covers all depository institutions. Thus, savings institutions and credit unions have been reclassified from "finance (except banking)" to "banking." About \$0.4 billion in outlays from finance (except banking) were reclassified to banking. Without the reclassification, estimates of outlays in banking for 1992 would have been revised up \$0.1 billion instead of \$0.5 billion, and those of outlays in finance (except banking) would have been revised up \$0.2 billion rather than revised down \$0.2 billion.

Investment Transactions

In 1993, outlays resulting from acquisitions of existing U.S. businesses were \$23.1 billion, and those resulting from the establishment of new U.S. businesses were \$3.1 billion (Table 4-5). Most of the outlays were made by existing U.S. affiliates (\$19.6 billion) rather than by the foreign direct investors themselves (\$6.6 billion); however, some of the outlays made by existing U.S. affiliates were financed with funds provided by foreign parents or other members of the foreign parent groups.⁷ (Transactions by source of funding are discussed in more detail later in this chapter.)

By Industry

By industry of the U.S. businesses acquired or established, outlays in manufacturing, at \$12.4 billion, were the largest (Table 4-6). Within manufacturing, outlays were largest in chemicals and allied products, machinery, and "other manufacturing."

In chemicals, outlays were \$5.7 billion. Four investments dominated the transactions. First, a U.S. affiliate of a British company acquired an industrial-chemicals producer. Second, a U.S. affiliate of a German company acquired a drug manufacturer. Third, a U.S. affiliate of a British company acquired the chemical-products business of a U.S. drug manufacturer that, like several other large U.S. drug companies, was divesting itself of operations outside its core health-care business. Fourth, a U.S. affiliate of a Swiss company acquired a toiletry manufacturer. In two other sizable transactions, a U.S. affiliate of a British company established a joint venture with a chemical company, and a U.S. affiliate of a French company acquired a drug manufacturer.

In machinery, outlays were \$2.0 billion. Two transactions were particularly large. One was the acquisition of an electrical-products business of a U.S. company by a U.S. affiliate of a German company; the U.S. company's divestiture of the unit reflected its strategy of concentrating more on its core telecommunications operations. In the other transaction, an Israeli company acquired a computer and office equipment company.

In "other manufacturing," outlays were \$2.0 billion. The largest transaction was the acquisition of a paper-products company by a U.S. affiliate of a British company.

In the remaining manufacturing industries, outlays were \$1.4 billion in both primary and fabricated metals and food and kindred products. In metals, a U.S. affiliate of a Canadian company acquired a heating

equipment manufacturer, and a U.S. affiliate of a British company acquired a hardware-products manufacturer.

In food, five transactions dominated. A U.S. affiliate of a British company acquired a beverages company, and a U.S. affiliate of a Netherlands company acquired two dairy-products companies. Two U.S. affiliates of a British company each acquired a company: One acquired a beverages company, and the other acquired a producer of grain mill products.

Outside manufacturing, outlays were largest, at \$3.9 billion, in services. Among the largest investments, a Canadian company acquired a minority interest in a company in the motion picture and television industry, a U.S. affiliate of a Japanese company acquired an educational services company, and a U.S. affiliate of a German company acquired a computer services company. Another large transaction was an Asian investor's acquisition of a hotel.

Outlays ranged from \$1.0 to \$2.0 billion in "other industries," real estate, retail trade, finance (except banking), and banking. In the largest transactions in "other industries," a U.S. affiliate of a British company acquired two mining companies, a British company acquired a minority interest in an air transportation company, and a U.S. affiliate of a British company acquired a gas company. In real estate, the largest transactions were by Japanese and Netherlands investors. In the largest transactions in retail trade, a U.S. affiliate of a Middle Eastern company acquired a retailer, and a U.S. affiliate of a Venezuelan company acquired a food store chain. In finance (except banking), the largest transaction was a Netherlands company's acquisition of a franchising company. In banking, three acquisitions dominated—one by a U.S. affiliate of a British bank and the other two by a U.S. affiliate of a Spanish bank.

By Country

In 1993, ultimate beneficial owners (UBO's) in European countries accounted for \$17.1 billion, or 65 percent, of total outlays, and UBO's in Canada accounted for \$4.0 billion, or 15 percent. Within Europe, most outlays were accounted for by British, German, and Netherlands UBO's. Outlays of Japanese UBO's, at \$1.8 billion, were the lowest since 1985. UBO's in 15 countries had at least one investment of \$100 million or more. (Most of the transactions covered in this section were mentioned in the preceding section on outlays by industry.)

Outlays of British UBO's in 1993 were \$9.0 billion—four times outlays in 1992 (Tables 4-7 and 4-8). The increase probably partly reflected the economic recovery in the United Kingdom. The largest transaction by British UBO's was the acquisition of the industrial-chemicals company. In addition, all four of the

⁷ Foreign parent groups consist of the foreign parents and their foreign (non-U.S.) affiliates.

largest transactions in "other industries" were by British UBO's; of these, the largest transaction was the acquisition of one of the two mining companies. Other sizable British acquisitions were in food and kindred products, banking, and "other manufacturing."

Outlays of German UBO's were \$3.1 billion, up from \$2.0 billion. The largest transaction was the acquisition of the electrical-products business. Other sizable German acquisitions were in chemicals, finance (except banking), "other manufacturing," and services.

Outlays of Netherlands UBO's were \$1.5 billion, up from \$1.3 billion. Most of the 1993 outlays reflected the purchases of the franchising company and the two dairy-products companies.

Outlays of Canadian UBO's were \$4.0 billion, up from \$1.4 billion. The largest investment was the acquisition of a minority stake in the company in the motion picture and television industry. In addition, Canadian UBO's accounted for the three largest acquisitions in primary and fabricated metals.

Outlays of Japanese UBO's were \$1.8 billion, down from \$2.9 billion. The 38-percent reduction in outlays followed even sharper reductions in 1992 and 1991 (45 percent and 73 percent, respectively) and left outlays of Japanese UBO's at only a fraction of their 1990 peak of \$19.9 billion. Among Japanese UBO transactions in 1993, the largest was the acquisition of the educational services company. Other sizable Japanese acquisitions were in finance (except banking), wholesale trade, and real estate.

The declines in the outlays of Japanese UBO's stemmed from several factors in Japan and in the United States. In Japan, the ability of investors to finance new investments was constrained by the continuing economic recession, a sluggish stock market, reduced corporate profits, and the continued reluctance among banks to finance new investments. In the United States, disappointing results from earlier investments by Japanese UBO's may have made Japanese investors more cautious. In particular, investment in the real estate industry—the industry in which Japanese UBO's have been the largest foreign investors—has been dampened by reduced property values, depressed rental rates for commercial office space, and high office vacancy rates. Japanese UBO's accounted for less than one-fifth of total outlays in real estate in 1993, down from nearly one-third in 1991-92 and from over one-half in 1988-90.

By Source of Funding

Of the \$26.2 billion in total outlays in 1993, \$11.8 billion, or 45 percent, was provided by foreign parent groups. Although the level of funds provided by foreign parent groups was up substantially from the 1992 level of \$7.8 billion, these funds accounted for a smaller share of total outlays in 1993 than in 1992 (Table 4-9). These funds were used to finance investments made both

directly by foreign parents and indirectly through U.S. affiliates. The increase in funds from foreign parent groups contributed to the sharp overall increase in net capital inflows for foreign direct investment in the United States (FDIUS) in 1993.⁸

The remaining \$14.4 billion, or 55 percent, of 1993 outlays was funded by U.S. affiliates from sources other than their foreign parent groups. For example, the U.S. affiliates may have borrowed funds from unaffiliated U.S. or foreign persons, or they may have generated the funds internally. In 1992, these other funding sources financed 49 percent of outlays.

By industry, the percentage of financing by foreign parent groups was significantly above the all-industries average in insurance, finance (except banking), and wholesale trade. It was significantly below the average in banking, retail trade, petroleum, and real estate.

By area, the percentage of financing by foreign parent groups was above the all-countries average for UBO's in the Middle East, was about in line with the average for UBO's in Europe, and was below the average for UBO's in "Latin America and Other Western Hemisphere" and Canada. Within Europe, the share of French investment financed by foreign parent groups was significantly above average, whereas the share of British investment financed by foreign parent groups was significantly below average.

Selected Operating Data

The total assets of U.S. businesses acquired or established by foreign direct investors were \$97.1 billion in 1993, up from \$35.7 billion in 1992 (Tables 4-10 and 4-11). The assets of the businesses acquired in 1993, at \$88.7 billion, were substantially larger than those of the businesses established, at \$8.4 billion.

Most of the total assets of U.S. businesses acquired or established were accounted for by assets in manufacturing and services. Within manufacturing, assets in chemicals and machinery were largest. In services, assets in the motion picture and television industry were largest.

U.S. businesses acquired in 1993 employed 306,000 workers. Manufacturing accounted for the largest share of these employees (28 percent); services and "other industries" also accounted for large shares (26 percent and 22 percent, respectively). Newly established businesses employed 7,000 workers.

Foreign investors obtained 287,000 acres of U.S. land as a result of acquisitions in 1993. Affiliates in

⁸ In 1993, capital inflows for FDIUS were \$21.4 billion, up from \$9.9 billion in 1992. The preliminary estimates of capital inflows for FDIUS in 1993 were published in table 5 of "U.S. International Transactions, Fourth Quarter and Year 1993," *Survey* 74 (March 1994): 74. Revised estimates appeared in the June 1994 *Survey*.

"other industries," mainly mining, accounted for most of the acreage obtained. Foreign investors obtained 40,000 acres by establishing new businesses, including purchases of real estate.

Net income.--As in 1991-92, U.S. businesses acquired by foreign investors in 1993 had losses in the year before they were acquired.⁹ However, the rates of profitability--measured as net income per dollar of sales--varied considerably among these businesses. Throughout 1987-93, roughly 60 percent of acquired businesses were profitable, and a substantial portion--for example, 17 percent in 1993 and 19 percent in 1992--had returns on sales of 10 percent or more (Table 4-4).¹⁰ Although some large companies had sizable losses, the profitable companies tended to be among the larger affiliates that were acquired: In both 1993 and 1992, these companies accounted for a somewhat larger share of the assets of all acquired affiliates (65 percent and 62 percent, respectively) than they did of the number of acquired affiliates.

Of the roughly 40 percent of the acquired busi-

Table 4-4
Rates of Return on Sales of Newly Acquired U.S.
Businesses, 1987-93¹

Year	Number of acquisitions	Percent of affiliates with return on sales in the indicated range ²	Percent of affiliates				
			-20.0 percent or less	-10.0 percent to -9.9 percent	0.0 percent to 9.9 percent	10.0 percent to 19.9 percent	20.0 percent or more
1987	504	8	4	25	50	8	5
1988	828	9	4	19	49	11	7
1989	782	12	4	22	42	10	10
1990	799	13	7	21	40	10	9
1991	529	11	6	23	42	10	8
1992 ^r	438	11	7	24	38	9	10
1993 ^p	377	14	6	22	41	11	6

^r revised, ^p preliminary.

¹ The figures in this table exclude investments in real estate, in which the return to investors is often realized in a form other than current net income (for example, capital gains).

² Rates of return are for the year prior to the year of acquisition.

⁹ This discussion is limited to the net income of newly acquired businesses because the net income figures for newly established businesses are not actual operating results but rather are projections for the first full year of operations. The projections may not be realized, and even if they are, they may reflect start-up costs and less-than-full production.

¹⁰ These figures exclude investments in real estate, in which the return to investors is often realized in a form other than current net income (for example, capital gains).

¹¹ For a discussion of these and other possible reasons for low rates of return on FDIUS, see "Rates of Return on Direct Investment," *Survey* 72 (August 1992): 79-86.

¹² It has been argued that ownership changes are most likely to occur when a business and its management are poorly matched; if so, a new management may eventually succeed in earning a higher return. For a summary of this argument, in a slightly different context, see Robert H. McGuckin and Sang V. Nguyen, "On Productivity and Plant Ownership Change: New Evidence from the LRD," Bureau of the Census, Center for Economic Studies Discussion Paper CES 93-15.

nesses that had zero or negative returns on sales, somewhat more than one-half had rates between zero and -10 percent in both years, and somewhat fewer than one-half had rates below -10 percent. Some foreign investors may have acquired unprofitable businesses in order to gain access to the large U.S. market, to obtain advanced technologies or scarce raw materials, or to realize scale economies or technological efficiencies in other parts of their worldwide operations.¹¹ Other investors may have hoped to raise the profitability of the acquired businesses above their pre-acquisition levels.¹²

Data Availability

Only summary data are published in this chapter. A set of supplementary tables containing detail on the number of investments and investors for 1987-92 and on investment outlays and selected operating data for the newly acquired or established businesses for 1987-93 is available in July for \$18.00 from the Public Information Office, Order Desk, BE-53, Bureau of Economic Analysis, U.S. Department of Commerce, Washington, DC 20230. Visa or MasterCard orders may be placed by telephone at (202) 606-9827. When ordering, refer to the "BE-13 Supplementary Tables for the May 1994 *Survey of Current Business* article," Accession No. 50-94-20-105, and make checks payable to the Bureau of Economic Analysis. Comparable tables for 1980-86, Accession No. 50-89-20-106, are also available for \$18.00.

In addition to the data on new foreign direct investments presented here, BEA also publishes estimates of quarterly balance of payments flows and the annual direct investment position for new and existing investments combined. Summary estimates of quarterly balance of payments flows appear in the "U.S. International Transactions" article in the March, June, September, and December issues of the *Survey*. Summary position estimates appear in the June *Survey*. More detailed annual estimates of both the flows and the position usually appear in the August issue. (In 1993, the additional detail was published in July.)

Estimates covering the operations of U.S. affiliates of foreign companies are also available from BEA. The most recent estimates are presented in Chapter 5 of this report: "Foreign Direct Investment in the United States: 1992 Benchmark Survey Results".

Table 4-5.—Investment Outlays by Type of Investment and Investor, by Industry of U.S. Business Enterprise, 1992–93
(Millions of dollars)

	1992 ^r					1993 ^p				
	Total	By type of investment		By type of investor		Total	By type of investment		By type of investor	
		Acquisitions	Establishments	Foreign direct investors	U.S. affiliates		Acquisitions	Establishments	Foreign direct investors	U.S. affiliates
All Industries	15,333	10,618	4,716	4,056	11,275	26,182	23,055	3,126	6,586	19,586
Petroleum	463	433	30	9	454	774	708	65	31	743
Petroleum and coal products manufacturing	(^r)	(^r)	0	(^r)	0	(^r)	(^r)	(^r)	7	(^r)
Other	463	432	30	8	454	(^r)	(^r)	(^r)	24	(^r)
Manufacturing	6,014	4,582	1,432	2,022	3,992	12,416	11,955	463	949	11,469
Food and kindred products	404	265	139	(^r)	(^r)	1,387	1,380	7	4	1,383
Beverages	13	3	10	(^r)	(^r)	650	650	0	4	646
Other	391	263	128	28	363	738	731	7	(^r)	738
Chemicals and allied products	1,644	1,494	150	(^r)	(^r)	5,729	5,729	0	77	5,651
Industrial chemicals and synthetics	492	414	78	(^r)	492	(^r)	(^r)	0	(^r)	(^r)
Drugs	(^r)	186	(^r)	0	(^r)	874	874	0	62	812
Soap, cleaners, and toilet goods	(^r)	(^r)	0	(^r)	(^r)	(^r)	(^r)	0	0	(^r)
Other	472	(^r)	(^r)	5	467	(^r)	(^r)	0	(^r)	(^r)
Primary and fabricated metals	1,187	793	393	646	540	1,388	1,165	223	89	1,299
Primary metal industries	840	494	347	592	249	597	(^r)	(^r)	(^r)	(^r)
Ferrous	691	344	347	592	99	(^r)	(^r)	(^r)	0	(^r)
Nonferrous	150	150	0	0	150	(^r)	(^r)	0	(^r)	(^r)
Fabricated metal products	346	300	46	54	292	791	(^r)	(^r)	(^r)	(^r)
Machinery	1,002	760	242	373	629	1,952	1,944	8	488	1,464
Machinery, except electrical	577	355	223	175	402	779	773	7	443	337
Office and computing machines	38	34	5	37	1	455	451	4	397	58
Other	539	321	218	138	401	324	321	3	46	278
Electric and electronic equipment	425	406	19	198	227	1,173	1,171	2	45	1,128
Audio, video, and communications equipment	69	58	10	68	68	(^r)	(^r)	2	3	(^r)
Electronic components and accessories	167	162	6	68	99	(^r)	(^r)	0	43	(^r)
Other	189	186	3	129	59	(^r)	(^r)	0	(^r)	(^r)
Other manufacturing	1,778	1,269	508	563	1,214	1,962	1,737	225	290	1,672
Textile products and apparel	78	76	2	37	41	406	398	8	3	404
Lumber, wood, furniture, and fixtures	(^r)	(^r)	2	0	(^r)	(^r)	(^r)	0	0	(^r)
Paper and allied products	(^r)	(^r)	(^r)	0	(^r)	(^r)	(^r)	(^r)	0	(^r)
Printing and publishing	(^r)	(^r)	2	1	(^r)	256	254	2	7	250
Newspapers	3	3	0	(^r)	3	(^r)	(^r)	0	0	(^r)
Other	(^r)	(^r)	2	1	(^r)	(^r)	(^r)	2	7	(^r)
Rubber products	(^r)	0	(^r)	(^r)	0	(^r)	(^r)	0	(^r)	0
Miscellaneous plastics products	302	233	69	52	250	206	206	(^r)	1	206
Stone, clay, and glass products	(^r)	58	(^r)	(^r)	52	229	227	2	178	51
Transportation equipment	158	136	22	(^r)	(^r)	(^r)	(^r)	(^r)	6	(^r)
Motor vehicles and equipment	21	1	20	(^r)	(^r)	(^r)	3	(^r)	3	(^r)
Other transportation equipment	137	135	2	(^r)	(^r)	(^r)	(^r)	3	3	(^r)
Instruments and related products	314	291	23	120	195	262	260	2	78	184
Other	101	88	13	15	86	88	85	2	17	71
Wholesale trade	896	532	186	243	458	758	667	90	460	298
Motor vehicles and equipment	27	15	12	27	0	(^r)	28	(^r)	(^r)	32
Professional and commercial equipment and supplies	24	12	12	7	17	3	0	0	(^r)	3
Metals and minerals, except petroleum	17	9	8	4	13	0	0	0	0	0
Electrical goods	102	86	16	29	73	117	112	5	80	37
Machinery, equipment, and supplies	76	36	40	27	49	(^r)	(^r)	(^r)	(^r)	43
Other durable goods	48	45	4	4	44	82	(^r)	(^r)	59	24
Groceries and related products	100	70	30	31	69	40	40	0	0	40
Farm-product raw materials	1	0	1	1	0	0	0	0	0	0
Other nondurable goods	303	259	44	113	190	429	423	6	310	119
Retail trade	256	245	11	42	214	1,560	1,511	49	170	1,390
General merchandise stores	(^r)	0	(^r)	4	(^r)	0	0	0	0	0
Food stores	44	42	3	14	30	(^r)	(^r)	0	(^r)	(^r)
Apparel and accessory stores	(^r)	(^r)	0	2	(^r)	1	0	1	1	(^r)
Other	183	(^r)	(^r)	21	162	(^r)	(^r)	48	(^r)	(^r)
Banking ¹	529	529	0	24	505	1,071	1,046	25	36	1,036
Finance, except banking ¹	797	258	539	287	510	1,186	709	457	692	473
Insurance	291	120	171	18	273	921	559	361	361	560
Real estate	2,181	400	1,782	781	1,401	1,610	410	1,200	829	961
Services	2,023	1,683	340	389	1,634	3,934	3,790	144	2,577	1,357
Hotels and other lodging places	606	381	225	223	377	424	385	40	268	157
Business services	437	384	53	37	400	(^r)	(^r)	0	0	329
Computer and data processing services	137	130	7	31	106	255	252	3	75	179
Other business services	300	254	46	5	295	(^r)	(^r)	(^r)	(^r)	149
Motion pictures, including television tape and film	(^r)	7	3	(^r)	(^r)	(^r)	(^r)	(^r)	(^r)	0
Engineering, architectural, and surveying services	24	(^r)	0	19	5	(^r)	19	(^r)	0	(^r)
Accounting, research, management, and related services	(^r)	(^r)	6	6	(^r)	134	121	12	(^r)	(^r)
Health services	134	132	2	0	134	113	109	5	57	56
Other services	207	159	48	96	111	828	767	61	54	774
Other industries	2,101	1,834	267	266	1,835	1,971	1,700	271	692	1,279
Agriculture, forestry, and fishing	58	6	52	44	14	(^r)	0	(^r)	6	(^r)
Mining	934	898	35	5	929	(^r)	(^r)	32	9	(^r)
Coal	(^r)	(^r)	7	0	(^r)	(^r)	(^r)	0	0	(^r)
Other	(^r)	(^r)	28	5	(^r)	62	30	32	9	53
Construction	(^r)	(^r)	0	(^r)	(^r)	98	98	(^r)	(^r)	2
Transportation	(^r)	(^r)	14	(^r)	(^r)	(^r)	(^r)	(^r)	(^r)	(^r)
Communication and public utilities	874	709	165	195	679	560	361	199	(^r)	(^r)

^r Revised.

^p Preliminary.

^d Suppressed to avoid disclosure of data of individual companies.

* Less than \$500,000.

1. Beginning with 1992, savings institutions and credit unions have been reclassified from "finance, except banking" to "banking." See footnote 6 in text for further explanation.

Table 4-6.—Investment Outlays by Industry of U.S. Business Enterprise and by Country of Ultimate Beneficial Owner, 1987-93

(Millions of dollars)

	1987	1988	1989	1990	1991	1992 ^r	1993 ^p
Total	40,310	72,692	71,163	65,932	25,538	15,333	26,182
By industry:							
Petroleum	1,107	4,740	1,189	1,141	702	463	774
Manufacturing	19,751	36,136	35,958	23,898	11,461	6,014	12,418
Food and kindred products	4,177	3,287	6,515	997	1,247	404	1,387
Chemicals and allied products	4,041	2,918	11,584	7,518	2,897	1,644	5,729
Primary and fabricated metals	1,091	3,394	3,545	2,447	797	1,187	1,388
Machinery	2,834	7,737	4,346	3,795	4,929	1,002	1,952
Other manufacturing	7,608	18,800	9,969	9,141	1,591	1,778	1,962
Wholesale trade	1,271	2,454	2,634	1,676	623	698	758
Retail trade	1,212	8,022	1,861	1,250	1,605	256	1,560
Banking ¹	924	1,800	349	897	482	529	1,071
Finance, except banking ¹	1,604	972	4,186	2,121	2,199	797	1,166
Insurance	165	5,855	1,901	2,093	2,102	291	921
Real estate	4,765	3,518	6,438	7,771	3,823	2,161	1,610
Services	7,630	5,597	10,058	19,369	2,256	2,023	3,934
Other industries	1,881	3,597	6,587	5,716	284	2,101	1,971
By country²:							
Canada	1,276	11,360	4,403	3,430	3,454	1,351	3,999
Europe	25,517	37,173	40,724	36,011	13,994	8,344	17,127
France	2,044	4,199	3,469	10,217	4,976	406	1,078
Germany ³	4,664	2,090	2,435	2,363	1,922	1,964	3,140
Netherlands	391	2,214	3,629	2,247	1,661	1,331	1,528
United Kingdom	15,142	22,559	23,047	13,096	2,169	2,255	9,031
Other Europe	3,276	6,111	8,144	8,088	3,266	2,388	2,350
Latin America and Other Western Hemisphere	1,483	(^D)	1,084	796	375	1,438	779
South and Central America	355	(^D)	650	399	108	1,152	545
Other Western Hemisphere	1,128	187	434	397	267	286	234
Africa	(^D)	296	(^D)	(^D)	(^D)	(^D)	(^D)
Middle East	925	1,613	243	472	1,006	238	1,369
Asia and Pacific	10,928	21,819	24,530	23,170	6,560	3,716	2,744
Australia	2,691	4,556	4,574	1,412	251	164	125
Japan	7,006	16,188	17,410	19,933	5,357	2,921	1,848
Other Asia and Pacific	1,231	1,075	2,546	1,825	952	631	771
United States ⁴	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)
Addenda:							
European Communities (12) ⁵	22,895	33,737	33,869	30,741	12,007	6,862	15,999
OPEC ⁶	1,077	1,919	430	387	1,119	458	561

^r Revised.

^p Preliminary.

^D Suppressed to avoid disclosure of data of individual companies.

1. Prior to 1992, "banking" excludes, and "finance, except banking" includes savings institutions and credit unions. Beginning with 1992, savings institutions and credit unions have been reclassified from "finance, except banking" to "banking." See footnote 6 in text for further explanation.

2. Where more than one investor participated in a given investment, each investor and each investor's outlays are classified by country of each ultimate beneficial owner.

3. Prior to 1990, this line includes data only for the Federal Republic of Germany. Beginning

in 1990, this line also includes the former German Democratic Republic (GDR). This change has no effect on the data because, prior to 1991, there were no U.S. affiliates of the former GDR.

4. See footnote 4 in text for explanation.

5. European Communities (12) comprises Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, and the United Kingdom.

6. OPEC, the Organization of Petroleum Exporting Countries, comprises Algeria, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. Before January 1, 1993, Ecuador was also a member of OPEC; its data are included in this line through 1992.

Table 4-7.—Investment Outlays, Country of Ultimate Beneficial Owner by Industry of U.S. Business Enterprise, 1992

(Millions of dollars)

	All industries	Petroleum	Manufacturing						Wholesale trade	Retail trade	Banking ¹	Finance, except banking ¹	Insurance	Real estate	Services	Other industries
			Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery	Other manufacturing								
All countries	15,333	463	6,014	404	1,644	1,187	1,002	1,778	698	256	529	797	291	2,161	2,023	2,101
Canada	1,351	99	502	32	49	30	(^D)	(^D)	87	41	5	(^D)	(^D)	256	168	(^D)
Europe	8,344	115	3,577	337	1,411	421	665	743	183	160	(^D)	311	244	873	1,052	(^D)
Austria	6	0	0	0	0	0	0	0	0	0	0	2	0	4	0	0
Belgium	(^D)	0	0	0	0	0	0	0	0	0	0	0	0	(^D)	0	(^D)
Denmark	3	0	2	0	0	0	0	2	0	0	0	0	0	0	1	(^D)
Finland	9	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
France	406	0	333	0	1	(^D)	5	(^D)	(^D)	0	1	0	(^D)	0	(^D)	11
Germany	1,964	(^D)	1,223	0	781	35	370	37	(^D)	4	0	87	0	318	13	(^D)
Ireland	17	0	1	0	0	0	0	1	0	0	0	0	0	12	4	0
Italy	228	0	(^D)	4	(^D)	0	0	(^D)	2	0	0	0	0	0	(^D)	0
Liechtenstein	(^D)	0	0	0	0	0	0	0	0	0	0	0	0	0	3	(^D)
Luxembourg	5	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
Netherlands	1,331	0	456	(^D)	(^D)	3	(^D)	(^D)	(^D)	(^D)	(^D)	2	(^D)	186	76	(^D)
Norway	(^D)	0	4	0	4	0	0	0	0	0	0	0	0	(^D)	0	0
Spain	(^D)	0	0	0	0	0	0	0	0	0	0	(^D)	0	0	(^D)	(^D)
Sweden	152	0	(^D)	0	1	(^D)	(^D)	57	(^D)	0	0	5	0	2	(^D)	(^D)
Switzerland	1,259	0	148	(^D)	0	3	30	(^D)	6	(^D)	0	(^D)	0	108	(^D)	(^D)
United Kingdom	2,255	115	1,150	(^D)	(^D)	129	210	(^D)	31	83	(^D)	(^D)	(^D)	210	211	(^D)
Other	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Latin America and Other Western Hemisphere	1,438	(^D)	425	(^D)	(^D)	0	0	(^D)	(^D)	6	(^D)	(^D)	(^D)	162	209	(^D)
South and Central America	1,152	(^D)	(^D)	(^D)	(^D)	0	0	(^D)	3	6	(^D)	4	0	108	119	(^D)
Brazil	25	0	0	0	0	0	0	0	0	3	0	0	0	13	(^D)	(^D)
Mexico	979	0	(^D)	0	0	0	0	0	2	0	5	4	0	(^D)	109	(^D)
Panama	73	0	(^D)	0	0	0	0	0	0	0	0	0	0	(^D)	0	0
Venezuela	(^D)	(^D)	(^D)	0	(^D)	0	0	0	0	0	0	0	0	0	0	0
Other	(^D)	0	(^D)	(^D)	0	0	0	0	1	3	(^D)	0	0	3	(^D)	0
Other Western Hemisphere	286	0	(^D)	(^D)	0	0	0	(^D)	(^D)	0	0	(^D)	(^D)	54	91	21
Bahamas	29	0	0	0	0	0	0	0	0	0	0	0	0	6	(^D)	(^D)
Bermuda	58	0	0	0	0	0	0	0	0	0	0	0	0	1	(^D)	(^D)
Netherlands Antilles	(^D)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
United Kingdom Islands, Caribbean	151	0	(^D)	0	0	0	0	(^D)	0	0	0	(^D)	0	47	(^D)	(^D)
Other	(^D)	0	(^D)	(^D)	0	0	0	0	0	0	0	0	0	0	0	0
Africa	(^D)	(^D)	(^D)	0	(^D)	0	0	0	(^D)	0	0	0	0	1	0	(^D)
South Africa	16	0	(^D)	0	0	0	0	0	(^D)	0	0	0	0	0	0	(^D)
Other	(^D)	(^D)	0	0	0	0	0	0	0	0	0	0	0	1	0	(^D)
Middle East	238	0	80	(^D)	0	0	0	(^D)	0	0	0	(^D)	0	136	(^D)	0
Israel	(^D)	0	(^D)	0	0	0	0	0	0	0	0	0	0	(^D)	0	0
Kuwait	83	0	1	0	0	0	0	1	0	0	0	15	0	67	0	0
Lebanon	(^D)	0	0	0	0	0	0	0	0	0	0	0	0	(^D)	0	0
Saudi Arabia	85	0	(^D)	0	0	0	0	(^D)	0	0	0	(^D)	0	48	(^D)	0
United Arab Emirates	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	(^D)	0	0	0	0	0	0	0	0	0	0	0	0	(^D)	0	0
Asia and Pacific	3,716	(^D)	1,422	(^D)	123	736	(^D)	249	332	48	(^D)	418	(^D)	734	584	80
Australia	164	0	157	0	0	(^D)	(^D)	(^D)	2	0	0	0	0	(^D)	3	2
Hong Kong	338	0	5	0	0	0	5	0	(^D)	0	0	(^D)	0	107	199	0
Japan	2,921	(^D)	1,235	(^D)	(^D)	(^D)	230	(^D)	165	45	(^D)	406	(^D)	577	358	53
Korea, Republic of	20	0	0	0	0	0	0	0	8	3	0	0	0	(^D)	0	0
Malaysia	(^D)	0	(^D)	0	0	0	(^D)	0	0	0	0	0	0	0	0	0
New Zealand	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Philippines	(^D)	0	0	0	0	0	0	0	0	0	0	0	0	(^D)	0	0
Singapore	120	0	7	0	0	0	7	0	(^D)	0	0	(^D)	0	(^D)	0	(^D)
Taiwan	102	0	(^D)	0	(^D)	0	1	0	(^D)	0	0	0	0	(^D)	0	0
Other	45	3	(^D)	0	0	0	0	(^D)	7	0	(^D)	0	1	3	(^D)	0
United States ²	(^D)	0	(^D)	(^D)	0	0	0	0	(^D)	0	0	0	0	0	(^D)	0
Addenda:																
European Communities (12) ³	6,862	115	3,301	327	1,406	387	600	582	157	132	(^D)	152	244	735	409	(^D)
OPEC ⁴	458	(^D)	89	(^D)	(^D)	0	0	(^D)	2	3	(^D)	18	0	118	4	0

^D Suppressed to avoid disclosure of data of individual companies.^{*} Less than \$500,000.

1. See footnote 1, table 3.

2. See footnote 4 in text for explanation.

3. See footnote 5, table 4.

4. See footnote 6, table 4.

NOTE.—Data for 1992 are revised. Where more than one investor participated in a given investment, each investor and each investor's outlays are classified by the country of each individual ultimate beneficial owner.

Table 4-8.—Investment Outlays, Country of Ultimate Beneficial Owner by Industry of U.S. Business Enterprise, 1993

(Millions of dollars)

	All industries	Petroleum	Manufacturing						Wholesale trade	Retail trade	Banking ¹	Finance, except banking ¹	Insurance	Real estate	Services	Other industries
			Total	Food and kindred products	Chemicals and allied products	Primary and fabricated metals	Machinery	Other manufacturing								
All countries	26,182	774	12,418	1,387	5,729	1,388	1,952	1,962	758	1,560	1,071	1,166	921	1,610	3,934	1,971
Canada	3,999	3	1,349	(P)	(P)	999	(P)	306	(P)	2	0	5	0	175	(P)	(P)
Europe	17,127	(P)	10,130	1,355	5,638	365	1,457	1,314	268	740	(P)	786	918	950	(P)	1,548
Austria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Belgium	(P)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Denmark	(P)	0	0	0	0	0	0	0	0	0	0	0	0	0	(P)	0
Finland	82	0	71	0	0	0	(P)	(P)	0	0	0	0	0	0	(P)	(P)
France	1,078	4	369	3	(P)	(P)	104	(P)	18	(P)	0	38	(P)	4	6	30
Germany	3,140	(P)	2,146	0	(P)	(P)	(P)	219	(P)	168	0	(P)	0	188	(P)	108
Ireland	(P)	0	0	0	0	0	0	(P)	(P)	0	0	0	0	0	0	0
Italy	168	0	62	(P)	0	(P)	(P)	3	0	0	0	(P)	0	0	0	9
Liechtenstein	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
Luxembourg	(P)	0	(P)	0	0	0	0	0	3	0	0	0	0	5	0	0
Netherlands	1,528	0	(P)	(P)	5	(P)	0	(P)	(P)	(P)	0	(P)	(P)	284	(P)	(P)
Norway	(P)	0	0	0	0	0	0	0	(P)	0	0	0	0	0	(P)	0
Spain	(P)	0	2	0	0	0	2	0	0	0	(P)	0	0	0	0	(P)
Sweden	130	0	(P)	0	0	0	0	0	0	0	0	3	0	0	3	0
Switzerland	872	0	(P)	(P)	(P)	0	(P)	8	(P)	0	0	2	(P)	18	0	13
United Kingdom	9,031	(P)	6,205	755	(P)	246	62	(P)	118	304	0	(P)	5	(P)	234	1,362
Other	(P)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(P)
Latin America and Other Western Hemisphere	779	(P)	(P)	23	0	(P)	(P)	(P)	125	(P)	0	(P)	2	45	48	(P)
South and Central America	545	(P)	(P)	(P)	0	(P)	(P)	(P)	6	(P)	0	(P)	2	36	(P)	(P)
Brazil	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mexico	67	0	5	(P)	0	0	(P)	(P)	6	0	0	(P)	2	0	2	0
Panama	(P)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Venezuela	440	(P)	(P)	0	0	0	0	0	0	(P)	0	0	0	0	0	0
Other	(P)	0	0	0	0	0	0	0	0	0	0	0	0	(P)	0	0
Other Western Hemisphere	234	4	39	(P)	0	0	(P)	(P)	119	(P)	0	0	0	9	(P)	(P)
Bahamas	(P)	0	0	0	0	0	0	0	(P)	0	0	0	0	0	0	0
Bermuda	68	(P)	(P)	(P)	0	0	0	0	(P)	0	0	0	0	0	0	0
Netherlands Antilles	54	0	(P)	0	0	0	(P)	0	2	0	0	0	0	9	(P)	0
United Kingdom Islands, Caribbean	39	(P)	(P)	(P)	0	0	2	0	0	0	0	0	0	0	0	0
Other	(P)	0	(P)	0	0	0	0	(P)	0	0	0	0	0	0	(P)	0
Africa	(P)	(P)	0	0	0	0	0	0	(P)	0	0	0	0	3	0	(P)
South Africa	(P)	0	0	0	0	0	0	0	(P)	0	0	0	0	(P)	0	(P)
Other	(P)	(P)	0	0	0	0	0	0	0	0	0	0	0	3	0	0
Middle East	1,369	(P)	379	0	0	0	(P)	(P)	0	(P)	0	0	0	53	9	(P)
Israel	(P)	(P)	379	0	0	0	(P)	(P)	0	0	0	0	0	0	9	0
Kuwait	7	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0
Lebanon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Saudi Arabia	70	0	0	0	0	0	0	0	0	0	0	0	0	(P)	0	(P)
United Arab Emirates	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	(P)	(P)	0	0	0	0	0	0	0	(P)	0	0	0	(P)	0	0
Asia and Pacific	2,744	19	492	(P)	50	(P)	94	325	290	(P)	(P)	318	0	385	1,098	93
Australia	125	0	(P)	0	0	0	0	(P)	0	0	0	0	0	1	(P)	0
Hong Kong	251	0	0	0	0	0	0	0	0	0	0	2	0	108	(P)	0
Japan	1,848	(P)	281	(P)	40	(P)	66	163	(P)	(P)	3	316	0	271	682	72
Korea, Republic of	39	0	7	0	(P)	0	0	0	0	0	0	0	0	0	(P)	0
Malaysia	46	(P)	(P)	0	0	0	(P)	0	(P)	0	0	0	0	0	(P)	0
New Zealand	(P)	0	0	0	0	0	0	0	0	0	0	0	0	0	(P)	0
Philippines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Singapore	114	0	96	0	0	0	(P)	(P)	(P)	0	0	0	0	0	4	(P)
Taiwan	26	0	(P)	0	(P)	0	7	(P)	0	0	(P)	0	0	0	0	0
Other	295	0	(P)	0	0	(P)	0	(P)	0	0	0	0	0	5	(P)	(P)
United States ²	(P)	0	(P)	0	(P)	0	0	0	3	2	0	(P)	0	0	(P)	(P)
Addenda:																
European Communities (12) ³	15,999	(P)	9,684	1,264	5,401	365	1,394	1,261	225	740	1,058	781	(P)	830	533	1,521
OPEC ⁴	561	98	(P)	0	0	0	0	(P)	0	(P)	0	0	0	50	(P)	(P)

P Suppressed to avoid disclosure of date of individual companies.

* Less than \$500,000.

1. See footnote 1, table 3.

2. See footnote 4 in text for explanation.

3. See footnote 5, table 4.

4. See footnote 6, table 4.

NOTE.—Data for 1993 are preliminary. Where more than one investor participated in a given investment, each investor and each investor's outlays are classified by the country of each individual ultimate beneficial owner.

Table 4-9.—Source of Funding of Investment Outlays, by Industry of U.S. Business Enterprise and by Country of Ultimate Beneficial Owner, 1992–93

	1992 ^r				1993 ^p			
	Millions of dollars			Funds from foreign parent groups as a percent of total	Millions of dollars			Funds from foreign parent groups as a percent of total
	Total outlays	Funds from foreign parent groups	Other		Total outlays	Funds from foreign parent groups	Other	
Total	15,333	7,808	7,525	51	26,182	11,818	14,364	45
By industry:								
Petroleum	463	(^D)	(^D)	(^D)	774	274	500	35
Manufacturing	6,014	3,669	2,345	61	12,418	6,016	6,402	48
Wholesale trade	698	439	259	63	758	408	350	54
Retail trade	256	155	101	61	1,560	377	1,183	24
Banking ¹	529	(^D)	(^D)	(^D)	1,071	131	940	12
Finance, except banking ¹	797	269	528	34	1,166	626	540	54
Insurance	291	64	227	22	921	781	140	85
Real estate	2,161	1,283	878	59	1,610	607	1,003	38
Services	2,023	1,132	891	56	3,934	1,666	2,268	42
Other industries	2,101	473	1,628	23	1,971	932	1,039	47
By country²:								
Canada	1,351	613	738	45	3,999	1,685	2,314	42
Europe	8,344	4,310	4,034	52	17,127	7,674	9,453	45
France	406	299	107	74	1,078	656	422	61
Germany	1,964	909	1,055	46	3,140	1,438	1,702	46
United Kingdom	2,255	1,309	946	58	9,031	3,488	5,543	39
Other	3,719	1,793	1,926	48	3,878	2,092	1,786	54
Latin America and Other Western Hemisphere	1,438	735	703	51	779	321	458	41
Africa	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)
Middle East	238	183	55	77	1,369	751	618	55
Asia and Pacific	3,716	1,947	1,769	52	2,744	1,308	1,436	48
Japan	2,921	1,557	1,364	53	1,848	813	1,035	44
Other	795	390	405	49	896	495	401	55
United States ³	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)
Addenda:								
European Communities (12) ⁴	6,862	3,363	3,499	49	15,999	6,749	9,250	42
OPEC ⁵	458	200	258	44	561	135	426	24

^r Revised.

^p Preliminary.

^D Suppressed to avoid disclosure of data of individual companies.

1. See footnote 1, table 3.

2. See footnote 2, table 4.

3. See footnote 4, table 4.

4. See footnote 5, table 4.

5. See footnote 6, table 4.

Table 4-10.—Total Assets, Sales, Net Income, Employment, and Acres of Land Owned by U.S. Business Enterprises Acquired or Established, by Industry of U.S. Business Enterprise, 1992
(Millions of dollars unless otherwise indicated)

	Total assets of all U.S. business enterprises acquired or established	U.S. business enterprises acquired					U.S. business enterprises established				
		Total assets	Sales ¹	Net income	Number of employees	Number of acres of land owned	Total assets	Sales ¹	Net income	Number of employees	Number of acres of land owned
All Industries	35,852	24,728	21,498	-316	120,801	131,030	10,923	4,914	114	20,882	93,391
Petroleum	1,040	1,001	(P)	80	1,184	215	38	7	-5	(P)	0
Petroleum and coal products manufacturing	(P)	(P)	(P)	(P)	(P)	(P)	0	0	0	0	0
Other	(P)	(P)	(P)	80	(P)	(P)	38	7	-5	(P)	0
Manufacturing	8,201	5,894	7,509	-254	55,450	5,817	2,306	2,586	69	12,967	1,810
Food and kindred products	666	300	477	17	3,131	364	366	474	14	1,085	128
Beverages	26	6	2	(P)	(P)	(P)	20	(P)	-1	(P)	(P)
Other	639	294	475	17	(P)	(P)	346	(P)	15	(P)	(P)
Chemicals and allied products	1,896	1,793	1,820	53	7,573	1,391	104	(P)	1	98	(P)
Industrial chemicals and synthetics	501	(P)	417	-2	(P)	(P)	(P)	1	(P)	(P)	(P)
Drugs	(P)	(P)	(P)	-11	1,004	(P)	(P)	(P)	(P)	(P)	(P)
Soap, cleaners, and toilet goods	(P)	(P)	(P)	(P)	(P)	(P)	0	0	0	0	0
Other	731	714	951	(P)	4,151	949	17	3	4	(P)	0
Primary and fabricated metals	1,581	1,134	1,615	-40	9,624	2,367	447	(P)	-8	536	(P)
Primary metal industries	1,042	650	890	-44	5,229	2,046	392	(P)	(P)	304	(P)
Ferrous	(P)	(P)	(P)	(P)	(P)	(P)	392	(P)	(P)	304	(P)
Nonferrous	(P)	(P)	(P)	(P)	(P)	(P)	0	0	0	0	0
Fabricated metal products	539	485	725	4	4,395	321	55	24	(P)	232	(P)
Machinery	1,408	787	916	-23	7,921	879	621	879	29	4,146	295
Machinery, except electrical	976	422	441	-12	3,468	(P)	554	823	28	(P)	256
Office and computing machines	57	52	77	-24	588	(P)	6	7	(P)	(P)	(P)
Other	919	371	364	12	2,880	130	548	815	28	(P)	(P)
Electric and electronic equipment	432	365	475	-11	4,453	(P)	67	56	2	(P)	39
Audio, video, and communications equipment	54	(P)	64	-4	421	(P)	(P)	3	-1	(P)	0
Electronic components and accessories	178	(P)	217	-9	2,097	(P)	(P)	(P)	1	(P)	(P)
Other	201	200	194	2	1,935	(P)	1	(P)	2	(P)	(P)
Other manufacturing	2,650	1,880	2,681	-261	27,201	816	769	1,059	33	7,102	99
Textile products and apparel	588	(P)	(P)	(P)	(P)	291	(P)	(P)	(P)	(P)	(P)
Lumber, wood, furniture, and fixtures	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)
Paper and allied products	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)
Printing and publishing	339	336	238	1	1,894	(P)	(P)	(P)	-1	(P)	(P)
Newspapers	4	4	2	1	(P)	(P)	0	0	0	0	0
Other	334	332	237	1	(P)	(P)	2	2	-1	(P)	(P)
Rubber products	2	0	0	0	0	0	2	1	1	0	0
Miscellaneous plastics products	299	223	227	13	2,015	104	76	(P)	-7	(P)	(P)
Stone, clay, and glass products	(P)	84	82	-6	(P)	(P)	(P)	(P)	(P)	(P)	(P)
Transportation equipment	170	152	295	-13	3,124	(P)	19	37	3	158	28
Motor vehicles and equipment	22	5	2	(P)	(P)	(P)	17	37	(P)	(P)	(P)
Other transportation equipment	148	146	293	-13	(P)	(P)	2	(P)	0	(P)	(P)
Instruments and related products	228	(P)	206	-13	2,021	(P)	(P)	(P)	1	(P)	(P)
Other	93	(P)	146	8	1,425	29	(P)	(P)	(P)	(P)	(P)
Wholesale trade	1,712	962	1,818	22	6,139	223	749	1,321	46	1,556	20
Motor vehicles and equipment	48	(P)	(P)	2	(P)	(P)	(P)	(P)	(P)	(P)	(P)
Professional and commercial equipment and supplies	(P)	12	87	-3	(P)	(P)	(P)	(P)	(P)	(P)	(P)
Metals and minerals, except petroleum	793	(P)	968	9	3,838	(P)	(P)	(P)	(P)	(P)	(P)
Electrical goods	176	(P)	80	2	640	(P)	(P)	(P)	(P)	(P)	(P)
Machinery, equipment, and supplies	96	90	319	-1	148	(P)	6	(P)	(P)	(P)	(P)
Other durable goods	(P)	(P)	88	5	(P)	(P)	(P)	(P)	(P)	(P)	(P)
Groceries and related products	102	0	0	0	0	0	(P)	(P)	(P)	(P)	(P)
Farm-product raw materials	(P)	0	0	0	0	0	(P)	(P)	(P)	(P)	(P)
Other nondurable goods	252	199	238	8	1,126	36	53	108	-1	119	0
Retail trade	1,003	984	2,629	-254	28,197	114	38	1	1	0	0
General merchandise stores	(P)	0	0	0	0	0	(P)	(P)	(P)	(P)	(P)
Food stores	182	(P)	(P)	0	(P)	(P)	(P)	(P)	(P)	(P)	(P)
Apparel and accessory stores	(P)	(P)	(P)	0	(P)	(P)	(P)	(P)	(P)	(P)	(P)
Other	793	787	1,549	(P)	17,851	(P)	5	(P)	(P)	(P)	0
Banking²	7,450	7,450	(P)	69	2,999	(P)	0	0	0	0	0
Finance, except banking²	3,725	885	145	8	517	(P)	2,840	(P)	6	118	(P)
Insurance	2,839	(P)	196	5	782	0	(P)	133	6	(P)	(P)
Real estate	2,610	(P)	77	-64	370	(P)	(P)	221	15	326	21,629
Services	2,242	1,795	1,214	-43	12,880	894	448	263	-3	3,922	707
Hotels and other lodging places	858	611	109	-9	2,576	87	247	119	1	2,219	11
Business services	657	570	575	-34	6,124	234	86	91	5	1,165	(P)
Computer and data processing services	119	101	194	-20	1,890	0	18	(P)	1	(P)	(P)
Other business services	538	470	381	-13	4,234	234	68	(P)	4	(P)	(P)
Motion pictures, including television tape and film	(P)	(P)	(P)	3	(P)	(P)	15	(P)	-1	(P)	(P)
Engineering, architectural, and surveying services	16	16	47	-1	365	(P)	0	0	0	(P)	(P)
Accounting, research, management, and related services	(P)	(P)	(P)	-6	(P)	(P)	10	9	1	140	(P)
Health services	104	(P)	160	3	1,723	(P)	15	15	(P)	(P)	(P)
Other services	277	196	182	2	1,251	560	81	13	-8	285	(P)
Other Industries	4,831	(P)	4,306	118	12,103	(P)	(P)	142	-21	599	69,216
Agriculture, forestry, and fishing	65	(P)	1	-1	(P)	(P)	(P)	2	(P)	(P)	55,240
Mining	2,244	2,207	1,000	114	3,388	(P)	37	(P)	(P)	(P)	(P)
Coal	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)
Other	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)
Construction	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)
Transportation	(P)	(P)	(P)	(P)	(P)	(P)	36	(P)	(P)	(P)	(P)
Communication and public utilities	1,543	1,278	(P)	-32	1,837	(P)	266	(P)	(P)	18	(P)

^P Suppressed to avoid disclosure of data of individual companies.

^{*} Less than \$500,000 (±).

1. Sales, or gross operating revenue, excluding sales taxes.

2. See footnote 1, table 3.

NOTE.—Data for 1992 are revised. For acquired businesses, data are for, or as of the end of, the fiscal year preceding the year of acquisition; for newly established businesses, data are projections for, or as of the end of, the first full year of operation.

Table 4-11.—Total Assets, Sales, Net Income, Employment, and Acres of Land Owned by U.S. Business Enterprises Acquired or Established, by Industry of U.S. Business Enterprise, 1993
(Millions of dollars unless otherwise indicated)

	Total assets of all U.S. business enterprises acquired or established	U.S. business enterprises acquired					U.S. business enterprises established				
		Total assets	Sales ¹	Net income	Number of employees	Number of acres of land owned	Total assets	Sales ¹	Net income	Number of employees	Number of acres of land owned
All Industries	97,051	88,701	51,635	-1,910	305,950	286,530	8,350	4,121	21	7,164	40,199
Petroleum	1,965	(b)	(b)	(b)	(b)	950	(b)	(b)	(b)	(b)	(b)
Petroleum and coal products manufacturing	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Other	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Manufacturing	15,771	15,192	14,219	-28	86,817	(b)	580	481	25	2,480	638
Food and kindred products	1,244	(b)	1,406	-8	6,919	(b)	(b)	(b)	(b)	(b)	0
Beverages	723	723	371	23	1,389	(b)	(b)	(b)	(b)	(b)	0
Other	521	(b)	1,035	-31	5,530	230	(b)	(b)	(b)	(b)	0
Chemicals and allied products	7,109	7,109	3,043	(b)	15,687	10,154	0	0	0	0	0
Industrial chemicals and synthetics	(b)	(b)	(b)	(b)	(b)	(b)	0	0	0	0	0
Drugs	246	246	139	-1	1,176	35	0	0	0	0	0
Soap, cleaners, and toilet goods	(b)	(b)	(b)	3	(b)	(b)	0	0	0	0	0
Other	1,020	1,020	592	-5	2,803	3,113	0	0	0	0	0
Primary and fabricated metals	1,359	1,133	1,088	(b)	7,415	1,907	226	26	4	(b)	174
Primary metal industries	597	(b)	144	4	737	(b)	(b)	(b)	4	(b)	(b)
Ferrous	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Nonferrous	(b)	(b)	(b)	4	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Fabricated metal products	762	(b)	944	(b)	6,678	(b)	(b)	(b)	(b)	(b)	(b)
Machinery	3,277	(b)	5,354	103	29,647	1,373	(b)	(b)	(b)	116	0
Machinery, except electrical	1,543	(b)	3,559	6	12,800	(b)	(b)	(b)	(b)	(b)	(b)
Office and computing machines	551	(b)	1,508	-1	3,924	(b)	(b)	(b)	(b)	(b)	(b)
Other	992	997	2,051	7	8,876	273	(b)	(b)	(b)	(b)	(b)
Electric and electronic equipment	1,734	(b)	1,795	96	16,847	(b)	(b)	(b)	(b)	(b)	(b)
Audio, video, and communications equipment	61	(b)	57	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Electronic components and accessories	(b)	(b)	(b)	(b)	2,006	(b)	(b)	(b)	(b)	(b)	(b)
Other	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Other manufacturing	2,783	2,456	3,327	153	27,149	8,706	327	441	29	2,245	464
Textile products and apparel	402	(b)	972	(b)	9,227	(b)	(b)	(b)	(b)	(b)	(b)
Lumber, wood, furniture, and fixtures	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Paper and allied products	555	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Printing and publishing	295	293	429	24	4,620	(b)	(b)	(b)	(b)	(b)	(b)
Newspapers	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Other	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Rubber products	1	(b)	3	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Miscellaneous plastics products	218	215	290	(b)	2,236	138	(b)	(b)	(b)	(b)	(b)
Stone, clay, and glass products	535	533	377	(b)	3,584	7,931	(b)	(b)	(b)	(b)	(b)
Transportation equipment	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	1,893	157
Motor vehicles and equipment	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Other transportation equipment	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Instruments and related products	427	426	405	11	3,078	128	(b)	(b)	(b)	(b)	(b)
Other	78	77	106	-1	873	(b)	(b)	(b)	(b)	(b)	(b)
Wholesale trade	1,299	1,074	2,209	18	7,381	925	225	154	-19	735	0
Motor vehicles and equipment	41	31	(b)	-1	(b)	(b)	11	(b)	(b)	(b)	(b)
Professional and commercial equipment and supplies	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Metals and minerals, except petroleum	0	0	0	0	0	0	(b)	(b)	(b)	(b)	(b)
Electrical goods	(b)	(b)	919	(b)	(b)	(b)	(b)	(b)	(b)	112	(b)
Machinery, equipment, and supplies	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Other durable goods	218	(b)	130	(b)	652	(b)	(b)	(b)	(b)	(b)	(b)
Groceries and related products	44	44	152	(b)	1,044	(b)	(b)	(b)	(b)	(b)	(b)
Farm-product raw materials	0	0	0	0	0	0	(b)	(b)	(b)	(b)	(b)
Other nondurable goods	369	362	885	11	912	93	7	4	(b)	9	0
Retail trade	(b)	(b)	4,306	42	33,653	(b)	62	74	-14	316	0
General merchandise stores	0	(b)	(b)	0	(b)	(b)	0	0	(b)	(b)	(b)
Food stores	(b)	(b)	(b)	3	(b)	(b)	0	0	(b)	(b)	(b)
Apparel and accessory stores	1	0	(b)	0	(b)	(b)	1	(b)	(b)	(b)	(b)
Other	1,139	1,079	(b)	39	(b)	(b)	60	74	-14	(b)	0
Banking²	10,941	10,595	829	-48	4,234	(b)	346	9	-2	73	0
Finance, except banking²	7,731	4,141	660	8	(b)	(b)	3,589	(b)	(b)	484	0
Insurance	9,812	(b)	(b)	(b)	1,584	(b)	(b)	5	-4	(b)	0
Real estate	(b)	(b)	(b)	10	(b)	(b)	1,279	(b)	20	(b)	8,184
Services	(b)	(b)	14,575	48	78,475	1,385	195	237	-5	1,289	(b)
Hotels and other lodging places	499	454	170	11	2,964	19	45	13	2	406	6
Business services	566	533	455	(b)	8,393	9	33	83	1	290	(b)
Computer and data processing services	331	326	183	(b)	2,171	5	(b)	(b)	(b)	(b)	(b)
Other business services	235	207	272	2	6,222	28	(b)	(b)	(b)	(b)	(b)
Motion pictures, including television tape and film	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Engineering, architectural, and surveying services	40	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Accounting, research, management, and related services	125	113	(b)	-5	1,838	(b)	11	(b)	(b)	111	(b)
Health services	272	(b)	281	8	5,045	(b)	4	(b)	(b)	(b)	(b)
Other services	1,018	951	409	-16	8,365	1,223	67	13	(b)	(b)	(b)
Other Industries	11,082	10,481	9,994	(b)	68,013	(b)	601	35	-42	258	24,882
Agriculture, forestry, and fishing	22	(b)	0	(b)	0	0	22	5	(b)	74	22,003
Mining	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Coal	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Other	82	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Construction	167	165	499	(b)	2,298	(b)	(b)	(b)	(b)	(b)	(b)
Transportation	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Communication and public utilities	870	373	230	(b)	1,170	(b)	497	28	(b)	155	(b)

¹ Suppressed to avoid disclosure of data of individual companies.

² Less than \$500,000 (±).

1. Sales, or gross operating revenue, excluding sales taxes.

2. See footnote 1, table 3.

NOTE.—Data for 1993 are preliminary. For acquired businesses, data are for, or as of the end of, the fiscal year preceding the year of acquisition; for newly established businesses, data are projections for, or as of the end of, the first full year of operation.

Foreign Direct Investment in the United States: 1992 Benchmark Survey Results

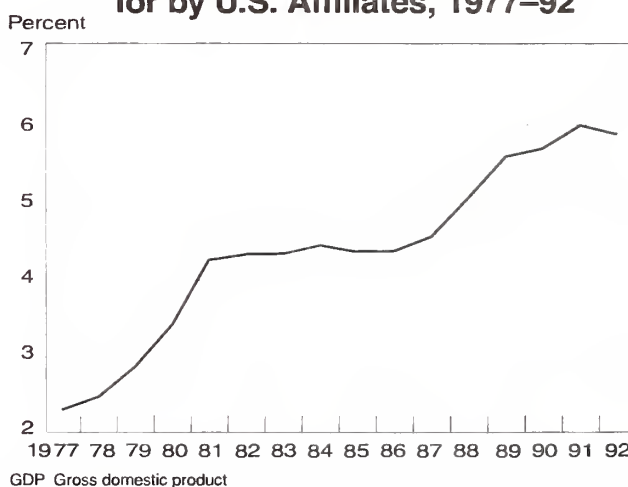
by William J. Zeile*

U.S. affiliates of foreign companies accounted for a slightly smaller share of the U.S. economy in 1992 than in 1991.¹ According to preliminary results of BEA's latest benchmark survey of foreign direct investment in the United States (Box 5-1), the affiliate share of gross domestic product (GDP) of all nonbank U.S. businesses was 5.8 percent in 1992; the comparable figure for 1991 was 6.0 percent (Table 5-1 and Figure 5-1).² Although the gross product of affiliates in current dollars grew 3.2 percent in 1992, in constant dollars, the gross product of

affiliates was essentially flat in 1992, compared with a growth rate of about 3 percent for all U.S. businesses; in 1987-91, growth in the real gross product of affiliates was higher than that of all U.S. businesses (Figure 5-2).³

Figure 5-1

Percentage of GDP of All Nonbank U.S. Businesses Accounted for by U.S. Affiliates, 1977-92



U.S. Department of Commerce, Bureau of Economic Analysis

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BEA thanks the staffs of the U.S. companies that responded to the 1992 benchmark survey for their efforts in completing and filing reports and for their cooperation with BEA during the processing and review of the data.

J. Steven Landefeld, Deputy Director, Bureau of Economic Analysis, provided general guidance for the survey. Betty L. Barker, Chief, and R. David Belli, Assistant Chief, International Investment Division (IID), directed the design of the benchmark survey report forms, the conduct of the survey, and the analysis and publication of the results.

The Direct Investment in the United States Branch of IID, under the direction of James L. Bomkamp, was primarily responsible for conducting the survey. David H. Galler supervised the editing and processing of the reports; he also designed the computer edit checks and the forms and processing control systems. The following staff processed and edited the survey: Juris E. Abolins, Chester C. Braham, A. Margaret Buckley, Emily D. Curry, Constance T. Deve, Beverly A. Feeser, Charles R. Gravitz, David N. Hale, Margaret B. Hinders, Barbara K. Hubbard, Lonnie Hunter, Deanna D. Ibarra, Carol L. Lefkowitz, Stephanie A. Lewis, Edna A. Ludden, Gregory McCormick, Sidney Moskowitz, Ronald L. Ross, William R. Shupe, Marie P. Smith, John R. Starnes, Diann L. Vann, and Dorrett E. Williams.

Ned G. Howenstine, Jeffrey H. Lowe, and Dale P. Shannon, under the direction of Obie G. Whichard, assisted in reviewing the results for consistency and accuracy. Arnold Gilbert also assisted in the review.

Angela M. Roberts designed the computer programs for the integrated control file of foreign direct investment in the United States. Arnold Gilbert designed the programs for data estimation and final review of the data and, with the assistance of Robert L. Price, designed the programs for the suppression of the data to ensure confidentiality and for generation of the tables for publication. They were under the supervision of Smith W. Allnutt.

James T. Spalding coordinated the computer programming and data conversion and processing activities that were performed by Douglas J. Klear, Stephen P. Holliday, Marguerite E. Ellis, Effie M. Eason, and Janice E. Townsend.

Dale P. Shannon assisted in the analysis of the data and the preparation of the tables for this chapter. William J. Zeile and Ned G. Howenstine designed the separate data publication on this subject that presents more detailed data from the survey.

¹ A U.S. affiliate is a U.S. business enterprise in which there is foreign direct investment—that is, in which a single foreign person owns or controls, directly or indirectly, 10 percent or more of the voting securities of an incorporated U.S. business enterprise or an equivalent interest in an unincorporated U.S. business enterprise. An affiliate is called a U.S. affiliate to denote that it is located in the United States; in this chapter, “affiliate” and “U.S. affiliate” are used interchangeably. “Person” is broadly defined to include any individual, corporation, branch, partnership, associated group, association, estate, trust, or other organization and any government (including any corporation, institution, or other entity or instrumentality of a government).

² Although the benchmark survey covered both bank and nonbank affiliates, only data for nonbank affiliates are presented in this chapter; thus, the data for 1992 are consistent with the data from BEA’s annual surveys for other years, which cover only nonbank affiliates.

³ The data used to estimate gross product of affiliates are reported to BEA in current dollars. Price indexes specifically designed for deflating production by affiliates are unavailable; however, rough estimates of affiliate gross product in constant dollars were constructed for 1987-91 by applying industry-level deflators for all U.S. businesses, weighted to take into account the industry mix of affiliate production. Industry-level deflators for all U.S. businesses are not yet available for 1992, so affiliate gross product was deflated by the implicit price deflator for nonfarm U.S. businesses, less housing.

The decrease in the affiliate share of GDP in 1992 was the first since 1985 and followed several years of rapid growth. It primarily reflected a sharp drop in new investment activity. Despite the decrease, affiliate operations accounted for a substantially larger share of U.S. economic activity in 1992 than in 1987, the year of the last benchmark survey.

The following are other highlights of the survey for 1992:

- The growth in total assets of affiliates slowed substantially from previous years; the slowdown was accompanied by a large drop in affiliate expenditures for new plant and equipment.
- Employment by nonbank affiliates declined 3 percent, the first decrease since at least 1977, when BEA began to collect annual data on affiliate operations. Increases in employment resulting from new investments were much smaller in 1992 than in 1991, and they were more than offset by decreases in employment resulting from sales and liquidations of foreign ownership interests.
- For the third consecutive year, the after-tax net income of nonbank affiliates was negative. Affiliates reported losses of \$20 billion, which includes special charges taken against earnings in order to conform to new accounting standards for post-

BOX 5-1

The 1992 Benchmark Survey

Benchmark surveys are BEA's most comprehensive surveys of foreign direct investment, in terms of both coverage of companies and subject matter. The 1992 survey covered all U.S. affiliates of foreign direct investors that had assets, sales, or net income of more than \$1 million. It collected detailed information on the financial structure and operations of U.S. affiliates as well as on transactions and positions between the U.S. affiliates and their foreign parents.

The data from the benchmark survey extend universe estimates that begin with the year 1977 and that are derived from both annual and benchmark surveys. In addition, they will be used in preparing annual estimates in subsequent nonbenchmark years; these estimates are derived as the sum of (1) sample data reported in BEA's annual surveys of foreign direct investment in the United States and (2) estimates for nonsample affiliates, which are extrapolated from the prior benchmark survey.

Many of the items for which data were collected in the 1992 benchmark survey are similar to those for earlier years. However, some of the data from the 1992 benchmark survey—such as the expanded data on research and development that are discussed in this chapter—were not regularly collected before this survey. Other data on affiliates have been regularly collected only in benchmark survey years: These data include gross property, plant, and equipment used for manufacturing; interest receipts and payments; the number of employees covered by collective bargaining agreements; U.S. merchandise exports and imports by product and by country of destination or origin; and merchandise imports by intended use.

Except for a change in the classification of savings institutions and credit unions, the concepts and definitions underlying the 1992 data are essentially the same as those for BEA's 1987 benchmark survey.¹ Beginning with 1992, the data for nonbank U.S. affiliates exclude savings institutions and credit unions, which have been reclassified from the "finance, except banking" industry to the banking industry. In 1992, U.S. affiliates that were savings and loans or credit unions had total assets of \$27 billion, sales of \$2 billion, and employment of 6,800 (compared with total assets of \$382 billion, sales of \$33 billion, and employment of 57,900 for affiliates classified in "finance, except banking"). A full methodology of the 1992 survey will accompany the revised data, which will be published later in 1995.

The preliminary benchmark survey results include estimates of data for reports that could not be fully processed in time for publication. However, the amount of estimation required was small, particularly for key items; for example, only 3 percent of the totals shown in the accompanying tables for both assets and employment was estimated. The percentage of estimated data reflected in the preliminary results is significantly smaller for the 1992 benchmark survey than it was for the 1987 benchmark survey because the development of online interactive editing programs and improved estimating methodologies have shortened processing time and permitted greater use of data from partially processed reports. The final survey results, to be published later in 1995, will incorporate data from reports received and processed after publication of these preliminary results. Revisions are expected to be small overall; however, they could be sizable for some individual countries, industries, States, or items.

In the 1992 benchmark survey, a long form, requesting information in considerable detail, was filed by affiliates with assets, sales, or net income greater than \$50 million. To minimize the burden on survey respondents, a short form, containing less detail, was used for filing by smaller affiliates. For these affiliates, BEA has estimated the items that appear only on the long form, so that the published results are presented in the same detail for all affiliates.

¹ For information on the 1987 survey, see U.S. Department of Commerce, Bureau of Economic Analysis, *Foreign Direct Investment in the United States: 1987 Benchmark Survey, Final Results* (Washington, D.C.: U.S. Government Printing Office, August 1990).

employment and post-retirement benefits and for deferred income taxes. Operating profits on a national income accounting basis were positive after having been negative in 1991.

- As in earlier years, more than one-half of the gross product of nonbank affiliates was in manufacturing. In 1987-92, the affiliate share of all-U.S.-business gross product in manufacturing increased from 10 percent to 14 percent.
- Affiliates with ultimate beneficial owners (UBO's) in the United Kingdom and Japan accounted for the largest shares of total affiliate gross product--21 percent and 16 percent, respectively.⁴ Canadian-owned affiliates ranked third, with a share of 13 percent; before 1991, their share was higher than that of Japanese-owned affiliates.
- The affiliates' share of total U.S. expenditures on research and development (R&D), at about 13 percent, was much higher than their share of all-U.S.-business GDP. Their higher share of R&D reflects the typically large size of affiliates and their tendency to be concentrated in research-intensive industries. The number of affiliate employees engaged in R&D was 104,000, or about 2 percent of affiliate employment.

⁴ The UBO is that person, proceeding up a U.S. affiliate's ownership chain, beginning with and including the foreign parent, that is not owned more than 50 percent by another person. The foreign parent is the first foreign person in the affiliate's ownership chain. Unlike the foreign parent, the UBO of an affiliate may be located in the United States. The UBO of each U.S. affiliate is identified to ascertain the person that ultimately owns or controls and that, therefore, ultimately derives the benefits from owning or controlling the U.S. affiliate.

- For all industries combined, the research intensity of affiliates that performed R&D was about the same as that of all R&D-performing U.S. companies; however, in many individual industries, the research intensity of affiliates was substantially lower than that of all R&D-performing companies.
- Affiliates tended to be more highly unionized than all U.S. companies. Employees covered by collective bargaining agreements accounted for one-fifth of total employment by U.S. affiliates, compared with one-eighth for all U.S. businesses. In manufacturing, however, the union-employment shares for affiliates and all U.S. businesses were much closer (24 percent and 21 percent, respectively).
- Goods shipped by U.S. affiliates accounted for 22 percent of total U.S. merchandise exports. For two major product categories--food products and petroleum products--affiliates accounted for more than one-half of total exports.
- Goods shipped to U.S. affiliates accounted for 34 percent of total U.S. merchandise imports; affiliates accounted for about one-half or more of the imports of beverages and tobacco, chemicals, road vehicles and parts, and metal manufactures. More than two-thirds of the imports by affiliates were goods for resale without further manufacture by the affiliates, reflecting the large share of imports that was accounted for by wholesale trade affiliates.

This chapter first discusses changes in affiliate employment in 1992. It then briefly examines affiliate net income and operating profits in 1991 and 1992. Next, the chapter reviews changes in the share of the U.S. economy accounted for by U.S. affiliates since 1987, the year of the last benchmark survey. It then analyzes information on research and development, employment, and merchandise trade from the 1992 benchmark survey that either has not been available before or has not been available since the last benchmark survey. Finally, it summarizes selected data for majority-owned affiliates. In the discussion, information from outside sources, including press reports on specific companies, is used to assist in the analysis and interpretation of the survey results.

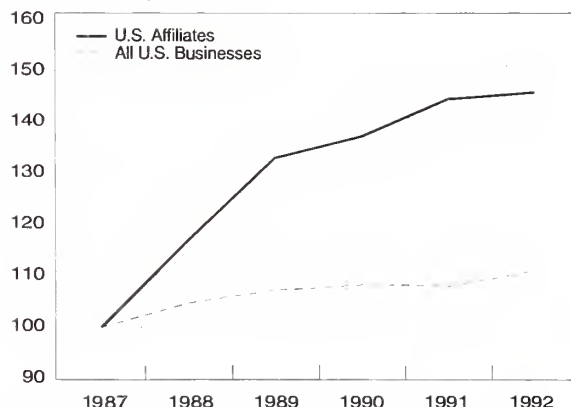
Employment in 1992

Employment by nonbank U.S. affiliates decreased 166,000 in 1992 to 4,705,000 after increasing 137,000 in 1991. The decrease was the first since at least 1977, when BEA began collecting annual data on U.S. affiliate operations (Figure 5-3). The decrease can be attrib-

Figure 5-2

Relative Movements in Real Gross Product of Nonbank U.S. Affiliates and of All Nonbank U.S. Businesses, 1987-92

Index numbers, 1987=100



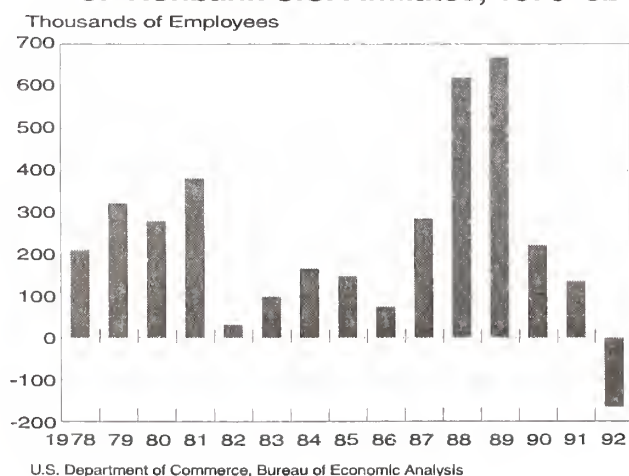
BOX 5-2 Data Availability

This chapter presents summary data from the 1992 benchmark survey. More detailed data are presented in the publication: *Foreign Direct Investment in the United States: 1992 Benchmark Survey, Preliminary Results*, available from the U.S. Government Printing Office. For order information, call (202) 783-3238. Both this chapter and the publication with more detailed data present preliminary results of the benchmark survey. The final results of the benchmark survey will be published later in 1995. Estimates of U.S.-affiliate operations in 1977-91 are available in a series of annual publications; for order information, call (202) 606-9800. The estimates are also available on computer diskettes; for information about purchasing the diskettes, call (202) 606-9879.

uted mainly to the fact that increases in employment due to new foreign investments were more than offset by decreases in employment due to sales and liquidations of affiliate businesses. New investments added only 100,000 employees in 1992, compared with 291,000 in 1991 and 482,000 in 1990 (Table 5-2). Sales and liquidations of affiliate businesses reduced employment by 293,000. Other changes had little net effect on employment: Decreases due to cutbacks in existing operations of affiliates were roughly balanced by increases due to expansions of existing operations.

Figure 5-3

Annual Changes in Employment of Nonbank U.S. Affiliates, 1978-92



By industry of affiliate, employment decreased in every major industry (Table 5-3). In retail trade--a very labor-intensive industry--employment dropped 90,000, amounting to more than one-half of the total decrease in affiliate employment in 1992. This drop was more than accounted for by the liquidation of the ownership interest of a Canadian investor in a nationwide U.S. retail chain. Affiliate employment decreased 33,000 in "other industries," mainly in construction and transportation; a large part of the decrease in transportation was due to the liquidation of a Canadian interest in a U.S. railroad company.

By country of UBO, the largest decreases in employment were by affiliates with UBO's in Canada (136,000) and the United Kingdom (116,000). The largest increases were by affiliates with UBO's in the United States (62,000), Switzerland (16,000), and Japan (9,000).⁵

Affiliate employment decreased in two-thirds of the States. The largest decreases were in California (39,000), New York (32,000), Florida (16,000), and New Jersey (13,000); in each State, a sizable portion of the decrease was accounted for by the liquidation of the Canadian interest in a nationwide retail chain. The only States with substantial increases in affiliate employment were Texas (11,000) and North Carolina (10,000).

Net Income in 1992

Affiliates reported losses in 1992 of \$20 billion, almost twice as large as their losses in 1991 (Table 5-4); prior to 1990, the net income of affiliates had been positive. These figures are after taxes, and they include capital gains, income from investments, and other nonoperating income. However, the "profit-type return" of affiliates--an economic accounting measure of the profits generated from production (see footnote to Table 5-4)--was positive in 1992 (\$2 billion) after being negative in 1991 (-\$2 billion). Much of the drop in net income in 1992 was due to one-time adjustments to earnings made by many affiliates to conform with new accounting standards for post-employment and post-retirement benefits and for deferred income taxes. The net effect of these adjustments was to reduce net income by a substantial amount. However, the adjustments had no effect on the profit-type-return measure.

By major industry, affiliate net income in 1992 was negative in every industry except nonbank finance and insurance. In three industries--petroleum, manufacturing, and wholesale trade--affiliates incurred losses despite having a positive profit-type return, and in a fourth--"other industries"--affiliates incurred losses on

⁵ The definition of foreign direct investment in the United States is based on whether a U.S. company has a foreign parent rather than on the location of the UBO. Thus, while all U.S. affiliates have a foreign parent, some may have a UBO that is located in the United States.

a net-income basis that were many times larger than their losses in terms of profit-type return.

In manufacturing, net income dropped \$5 billion in 1992 despite a \$2 billion increase in profit-type return. Almost all of the decrease was accounted for by affiliates in chemicals; it mainly reflected the one-time accounting adjustments described earlier for post-employment and post-retirement benefits. In "other industries," net income dropped \$3 billion, mainly reflecting one-time accounting adjustments for deferred income taxes by affiliates in the communications industry.

In some industries, the negative net income of affiliates reflected continuing losses from current operations (that is, negative profit-type return). Operating losses were particularly large for affiliates in real estate and services; most of the losses in services were by affiliates in the hotel and motion picture industries.

Share of the U.S. Economy, 1987-92

This section discusses changes in the share of the U.S. economy accounted for by nonbank U.S. affiliates since 1987, the year of the last benchmark survey. The changes are discussed in terms of two measures of economic activity: Gross product (an economic accounting measure of production) and employment. Unlike the data on gross product, the data on U.S.-affiliate employment are available by industry of sales as well as by industry of affiliate (Box 5-3). Because the affiliate employment data classified by industry of sales

are roughly comparable to the all-U.S.-businesses employment data classified by industry of establishment, they can be used to calculate affiliate shares of the U.S. economy at a greater level of industry detail than is appropriate using the gross product data, which are available only by industry of affiliate.⁶ Data on affiliate employment are also collected by State; thus, affiliates' share of all-U.S.-business employment in each State can be computed.

Whether measured in terms of gross product or employment, affiliates' share of the U.S. economy has increased substantially since 1987. Much of the increase was the result of acquisitions by foreigners of existing U.S. companies.

Gross Product

The U.S.-affiliate share of the gross product of all nonbank U.S. businesses increased steadily from 4.5 percent in 1987 to 6.0 in 1991 and then declined to 5.8 percent in 1992.⁷ In 1982-87, the share had edged up from 4.3 percent to 4.5 percent.

⁶ Data on the manufacturing establishments of U.S. affiliates can be used to calculate affiliate shares of U.S. economic activity in each of the detailed manufacturing industries defined at the four-digit level of the Standard Industrial Classification. These establishment-level data--the result of a joint project of BEA and the Bureau of the Census--are currently available for the years 1987-91. The data for 1990 are discussed in Chapter 7 of this report: "Characteristics of Foreign-Owned U.S. Manufacturing Establishments."

BOX 5-3

Data by Industry of Affiliate and by Industry of Sales

Most data from the benchmark survey are classified by industry of affiliate. For this classification, an affiliate's primary industry--that is, the industry that accounts for the largest portion of its sales--is determined, and all data are shown in that industry even if the affiliate also has activities in secondary industries.

Sales and employment are also classified by industry of sales. For this classification, an affiliate's sales and employment are shown in those industries rather than in the affiliate's primary industry. Employment classified by industry of sales should generally approximate that classified by industry of establishment (plant), because an affiliate that has an establishment in an industry usually also has sales in that industry.¹

Data classified by industry of sales are preferable for analyses of the various activities in which diversified enterprises are engaged. The pattern of change in employment by industry of sales may differ from the pattern by industry of affiliate because the changes in employment in affiliates' secondary industries may not parallel those in their primary industries. A change in an affiliate's industry of classification may also cause these patterns to differ; when employment is classified by industry of affiliate, all employees are shifted from the old industry to the new one, but when it is classified by industry of sales, changes in employment for an industry reflect only actual changes in employment in that industry.

¹ However, if one establishment of an affiliate provides all of its output to another establishment of the affiliate, the affiliate will not have sales in the industry of the first establishment. For example, if an affiliate operates both a metal mine and a metal-manufacturing plant and if the entire output of the mine is used by the manufacturing plant, all of the affiliate's sales will be in metal manufacturing, and none in metal mining. When the mining employees are distributed by industry of sales, they are classified in manufacturing even though the industry of the establishment is mining.

Most of the increase in share occurred in 1987-89, when new investment activity was strong. Annual outlays by foreign investors to acquire and establish U.S. business enterprises averaged \$61 billion in 1987-89, compared with \$19 billion in 1982-86. After continuing to increase in 1990 and 1991, the affiliate share of all-U.S.-business gross product declined in 1992, when investment outlays—at \$15 billion—were lower than at any time since 1984.⁸

By industry.--In 1987-92, the affiliate share of all-U.S.-business gross product increased substantially in manufacturing, services, and "other industries," but decreased substantially in nonbank finance (Table 5-5).⁹

In manufacturing, which consistently accounted for more than one-half of total affiliate gross product, the affiliate share of all-U.S.-business GDP increased from 10.5 percent in 1987 to 14.2 percent in 1991, dipping slightly in 1992.

In services, the affiliate share increased from 0.9 percent in 1987 to 1.8 percent in 1992. Underlying this increase were rapid increases in affiliate gross product in such industries as hotels, business services, and motion pictures.

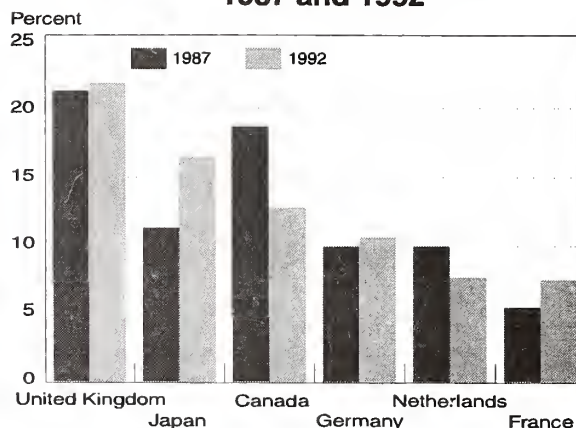
In "other industries," the affiliate share increased from 1.2 percent to 2.2 percent, reflecting large increases in affiliate gross product in mining, transportation, and communications and public utilities.

In nonbank finance, the affiliate share of all-U.S.-business gross product increased from 16.5 percent in 1987 to 18.7 percent in 1989 and then dropped to 6.1 percent in 1990. The large drop in 1990 was due to a reduction, to below 10 percent, in a foreign investor's minority stake in a large U.S. firm and, to a lesser extent, to a sizable reduction in operations by another minority-owned firm.

By country.--In 1992, affiliates with UBO's in the United Kingdom and Japan accounted for the largest shares of total affiliate gross product—21.5 percent and 16.2 percent, respectively (Table 5-6 and Figure 5-4). The share for British-owned affiliates changed little in 1987-92, but the share for Japanese-owned affiliates increased by almost one-half--from 11.1 percent in 1987. The share for French-owned affiliates also increased substantially—from 5.3 percent to 7.3 percent. In contrast, the share for Canadian-owned affiliates dropped from 18.4 percent to 12.5 percent; about one-half of this decrease occurred in 1992.

Figure 5-4

Percentage of Total Gross Product of Nonbank U.S. Affiliates Accounted for by Affiliates of Selected UBO Countries, 1987 and 1992



UBO Ultimate beneficial owner

U.S. Department of Commerce, Bureau of Economic Analysis

Employment

The share of all-U.S.-business employment accounted for by affiliates increased every year in 1987-91--rising from 3.7 percent to 5.3 percent—and then declined to 5.1 percent in 1992 (Table 5-7).

By industry.--In 1987-92, the affiliate shares of all-U.S.-business employment increased substantially in mining, insurance, transportation, and manufacturing.

In mining, the major industry in which the affiliate share has consistently been highest, the share increased through 1990, when it peaked at 12.7 percent, and then declined to 12.3 percent by 1992.

In insurance, the share increased from 3.7 percent in 1987 to 6.5 percent in 1991 and then dropped slightly in 1992.

In transportation, the share increased rapidly in 1987-90, from 2.7 percent to 6.1 percent, but leveled off in 1991 and declined to 5.1 percent in 1992. The increase in 1987-90 was largely due to a few major acquisitions by foreign companies (including acquisi-

⁷ The U.S.-affiliate gross product estimates for 1988-91 presented in this chapter are revised from those previously published. The revised estimates incorporate improved estimates of net interest paid, a major component of gross product. The improved estimates of net interest paid, in turn, reflect information on interest payments and receipts reported in the 1992 benchmark survey. (Such payments and receipts are reported only in benchmark survey years and must be estimated for other years.)

⁸ Data on investment outlays appear in Chapter 4 of this report: "U.S. Business Enterprises Acquired or Established by Foreign Direct Investors in 1993."

⁹ At levels of industry disaggregation more detailed than those shown in table 5, the data used to compute the shares of gross product are not strictly comparable. The data on the GDP of all U.S. businesses are on an establishment, or plant, basis, whereas the data on gross product of affiliates are on an enterprise, or company, basis. On an enterprise basis, all of the gross product of an affiliate is assigned to its major industry, even though the affiliate may have establishments operating in a number of secondary industries.

tions of minority interests in U.S. airlines); the decline in 1992 was mainly the result of the liquidation of a Canadian investor's interest in a U.S. railroad.

In manufacturing, the share increased steadily, from 7.7 percent in 1987 to 11.6 percent in 1991 and remained at 11.6 percent in 1992. Within manufacturing, the largest increases in affiliate shares in 1987-92 were in rubber and plastics products (from 6.6 percent to 14.8 percent) and in stone, clay, and glass products (from 14.5 percent to 21.0 percent). The increase in rubber and plastics products was mainly due to two large acquisitions in tire manufacturing--one in 1988 by a Japanese tire manufacturer and the other in 1990 by the U.S. affiliate of a French tire manufacturer. The increase in stone, clay, and glass products also reflected substantial acquisition activity, particularly in 1988-90.

Affiliate shares also increased substantially in chemicals, electric and electronic equipment, machinery, and motor vehicles. The share in motor vehicles increased from 6.6 percent in 1987 to 12.2 percent in 1991 and then declined to 11.1 percent in 1992. The increase in 1987-91 largely reflected expansions in the operations of Japanese-owned affiliates; the decline in 1992 was partly due to the liquidation of a Canadian-owned affiliate and to reductions resulting from the consolidation of a Swedish-owned affiliate.

By State.--The share of all-U.S.-business employment accounted for by affiliates in each of the years 1987-92 was highest in Delaware, followed by Hawaii and South Carolina (Table 5-8). The affiliate share in Delaware was about 14 percent in 1988-91, but dropped to less than 12 percent in 1992; most of this drop was due to cutbacks in employment at a large minority-owned affiliate. In Hawaii, the affiliate share increased rapidly in 1987-91--from 7.2 percent to 12.5 percent--and then declined slightly in 1992; more than two-thirds of affiliate employment was by Japanese-owned affiliates. In South Carolina, the affiliate share increased every year--from 6.5 percent in 1987 to 8.8 percent in 1992.

Expanded Information from the Benchmark Survey

The 1992 benchmark survey provides data on expenditures on research and development (R&D) performed by U.S. affiliates, whether financed by the affiliates themselves or by others.¹⁰ These data, which were collected for the first time since the 1974 benchmark survey, are comparable to the data on R&D performed by all U.S. companies that are published by the National Science Foundation (NSF). In addition, infor-

mation was collected on the R&D employment of affiliates (that is, the number of scientists, engineers, and other employees engaged in R&D); such data had been previously collected only in the 1980 benchmark survey.

The 1992 benchmark survey also provides the following data that are regularly collected in benchmark surveys but not in annual surveys: The number of affiliate employees covered by collective bargaining agreements, U.S. merchandise exports and imports of affiliates by product and by country of destination or origin, and merchandise imports of affiliates by intended use.

The following discussion presents some findings from these new data, particularly as they relate to similar data for all U.S. businesses.

Research and Development

In 1992, expenditures on R&D performed by U.S. affiliates totaled \$14 billion, about 13 percent of the NSF estimate of R&D performed by all U.S. businesses (Table 5-9). The R&D employment of affiliates was 104,000, about 15 percent of the R&D employment of all U.S. businesses.

Of the total R&D performed by affiliates, nearly all--95 percent--was financed by the affiliates themselves; only 1 percent was financed by the Federal Government and only 4 percent was financed by other private companies for which affiliates performed R&D under contract. In contrast, 27 percent of the R&D performed by all U.S. businesses was financed by the Federal Government. U.S. affiliates accounted for 17 percent of the privately funded R&D performed by all U.S. businesses, but for less than 1 percent of the federally funded R&D. The low affiliate share of federally funded R&D may reflect the fact that much of this research is military related and therefore generally off limits to foreign-owned companies.

The share of R&D accounted for by affiliates was much higher than their share of all-U.S.-business GDP (6 percent). The higher share in R&D partly reflects the fact that U.S. affiliates tend to be large companies, which perform most of the R&D in the United States. It also reflects the tendency for affiliates to be more concentrated in research-intensive industries, such as chemicals.

Table 5-10 presents industry detail on the privately funded R&D performed by affiliates and on the R&D employment of affiliates. Also shown, by industry, are two measures of the research intensity of R&D-performing affiliates and of all R&D-performing U.S. companies: Privately funded R&D as a percentage of sales and R&D employment as a percentage of total employment.¹¹

For affiliates, the two measures of research intensity were highest in two service industries: Computer

¹⁰ These data supplement the data collected in previous annual and benchmark surveys on the total expenditures on R&D financed by U.S. affiliates (whether performed by the affiliates or by others), which is the measure recommended by the Financial Accounting Standards Board for use by companies in accounting for the costs of R&D.

and data processing services (for which the R&D-expenditures measure was 13 percent and the R&D-employment measure was 20 percent) and accounting, research, and management services (for which the two measures were 35 percent and 18 percent, respectively). Within manufacturing, affiliates in drugs had the highest research intensity.

For all industries combined, the research intensity of R&D-performing affiliates was very similar to that of all R&D-performing U.S. companies: It was marginally lower on the basis of the expenditures measure and marginally higher on the basis of the employment measure. The similarity between the measures at the all-industries level, however, appears largely to reflect offsetting industry-mix and within-industry effects: Affiliates tend to be concentrated in high-research-intensity industries, but for most industries for which comparable data are available, their research intensity was lower than that of all U.S. companies. Affiliates had a lower research intensity in 13 of the 22 industries with comparable data on R&D expenditures and in 8 of the 13 industries with comparable data on R&D employment. The most substantial differences were in computer and office equipment, electronic components, transportation equipment, and instruments.

In a few industries, the research intensity of affiliates was higher than that of all U.S. companies. The largest differences were in drugs and in audio, video, and communications equipment.

The finding that U.S. affiliates generally have a lower research intensity than all R&D-performing U.S. companies is not as strong as might be expected, given the well-known tendency for large multinational corporations to locate most of their R&D near company headquarters in the country of ownership. In the case of foreign direct investment in the United States, the advantages of locating R&D near company headquarters may be partly offset by advantages stemming from proximity to U.S. research centers and access to the large U.S. pool of scientists and engineers.

Union-Represented Employment

In 1992, 20 percent of the total employment of U.S. affiliates was covered by collective bargaining agreements, compared with a share of 13 percent for all

U.S. businesses (Table 5-11). This difference partly reflects industry-mix effects; for example, manufacturing (an industry with relatively high unionization) accounted for nearly one-half of the employment of affiliates but for only one-fifth of the employment of all U.S. businesses. However, even on a disaggregated industry basis, the union-employment share for U.S. affiliates exceeded that for all U.S. businesses in most industries for which comparable data are available. The higher shares for affiliates can probably be attributed to the tendency for foreign direct investment to be confined to large-scale enterprises, which generally have higher rates of unionization than small businesses.

Among industries, the union-employment share for affiliates was particularly high relative to that of all U.S. businesses in retail trade (20 percent, compared with 7 percent) and construction (33 percent, compared with 21 percent). In manufacturing, the union-employment share for affiliates was much closer to that of all U.S. businesses (24 percent, compared with 21 percent). In nondurables manufacturing, the shares were almost identical.

Within manufacturing, the union-employment share for affiliates varied considerably. The share was highest in primary metals (52 percent) and lowest in instruments (8 percent).

Merchandise Trade

U.S. affiliates continued to account for a significant share of total U.S. merchandise trade in 1992. U.S. merchandise exports shipped by affiliates were \$101 billion, or 22 percent of the U.S. total; U.S. merchandise imports shipped to affiliates were \$182 billion, or 34 percent of the U.S. total.

By product.--In 1992, U.S. affiliates accounted for about one-half of U.S. exports of food products and for about three-fourths of U.S. exports of petroleum and products (Table 5-12). In contrast, they accounted for less than 15 percent of U.S. exports of machinery, road vehicles and parts, and other transport equipment.

The share of food exports accounted for by affiliates in 1992 was nearly identical to the share in 1987. In both years, nearly all of the exports were by wholesale trade affiliates (Table 5-13), mainly by those with UBO's in Japan, France, and Switzerland.

The share of petroleum exports accounted for by affiliates was somewhat larger in 1992 than in 1987. About two-thirds of affiliates' petroleum exports in 1992 were by affiliates in wholesale trade, mainly affiliates of Japan's large general trading companies (the *sogo shosha*) and French-owned affiliates. Most of the remainder was by affiliates specializing in petroleum wholesale trade (which is classified as part of the petroleum industry).

On the import side, U.S. affiliates accounted for about 60 percent of U.S. imports of beverages and

¹¹ Comparisons between the research-intensity measures for R&D-performing U.S. affiliates and all R&D-performing U.S. companies should be viewed as approximate, because the data used to construct them are from different sources and for different years. The data for affiliates are from the 1992 benchmark survey, and the data for all R&D-performing U.S. companies are estimates based on a sample survey of industrial firms in 1991 (with the 1991 sample itself being a subset of a larger probability sample selected for 1987). Differences between the measures at the industry level may also reflect potential differences in the industry classification of individual companies according to sales (the basis used for classifying affiliates) or payroll (the basis used for classifying R&D-performing companies in the surveys conducted by the Census Bureau for NSF).

tobacco in 1992 and for about one-half of U.S. imports of chemicals, road vehicles and parts, and metal manufactures. For beverages and tobacco, the affiliate share was substantially higher in 1992 than in 1987; for road vehicles and parts, however, it was substantially lower.

Although product detail for trade by U.S. affiliates is not collected annually, the drop in the affiliate share for road vehicles and parts appears to reflect a steady decline--from \$50 billion in 1987 to \$35 billion in 1992--in imports by wholesale trade affiliates specializing in motor vehicles and equipment.¹² These affiliates tend to function as the primary distribution channel for finished vehicles produced in their home countries. The decline in their imports may partly reflect the substitution of production by foreign-owned auto plants in the United States for production overseas; in 1987-92, sales by U.S. affiliates in motor vehicles and equipment manufacturing increased from \$6 billion to \$16 billion.

Imports by intended use.--As in 1987, more than two-thirds of the imports by U.S. affiliates in 1992 were goods for resale without further processing, assembly, or manufacture by the affiliates. In the case of imports by wholesale trade affiliates, the share of goods for resale without further manufacture was more than 90 percent. Most of the remaining imports by affiliates were goods for further manufacture by the affiliates; as would be expected, these imports were mainly by manufacturing affiliates. In 1992, 70 percent of the imports by manufacturing affiliates were goods for further manufacture.

Imports of capital equipment accounted for only 1 percent of affiliate imports. They accounted for 2 percent of the imports by manufacturing affiliates and for 4 percent of the imports by affiliates in "other" industries. In the latter group, most of the capital-equipment imports were by affiliates in business services or transportation.

By country of destination or origin.--In 1992, U.S. affiliates accounted for two-thirds of total U.S. exports to Japan and for more than one-third of U.S. exports to China (Table 5-14). For most of the other major trading-partner countries, the share of U.S. exports accounted for by affiliates ranged from 10 to 20 percent.

More than 80 percent of affiliate exports to Japan were by Japanese-owned affiliates, mainly wholesale trade affiliates. Japanese-owned affiliates also accounted for more than one-half of U.S.-affiliate exports to both Malaysia and Taiwan.

On the import side, U.S. affiliates accounted for more than three-fourths of total U.S. imports from Japan

and Switzerland in 1992 and for more than one-half of U.S. imports from Sweden, Germany, the Netherlands, and Venezuela. Most of the U.S.-affiliate imports from each of these countries were by affiliates with UBO's in that country. In the case of Japan, Sweden, and Germany, these imports were mainly by wholesale trade affiliates functioning as distribution channels for manufactures produced in the investing country.

Japanese-owned affiliates accounted for more than 97 percent of U.S.-affiliate imports from Japan. They also accounted for about 60 percent of U.S.-affiliate imports from Singapore and about 40 percent of U.S.-affiliate imports from Taiwan and Thailand.

Majority-Owned U.S. Affiliates

The estimates presented thus far have covered the operations of all U.S. nonbank affiliates--that is, all U.S. nonbank companies that are owned 10 percent or more by a foreign direct investor. This section presents estimates for nonbank majority-owned U.S. affiliates (MOUSA's), which are affiliates owned more than 50 percent by foreign direct investors. It also examines industries in which minority-owned U.S. affiliates account for a sizable portion of the data for all nonbank U.S. affiliates.

Table 5-15 shows estimates of gross product, total assets, sales, and employment for MOUSA's and gives their shares of the affiliate totals for these items. Most of the MOUSA shares are high because most U.S. affiliates are majority owned. Altogether, MOUSA's accounted for about four-fifths or more of the gross product, total assets, sales, and employment of all nonbank U.S. affiliates.

The following paragraphs briefly discuss MOUSA shares of gross product of all nonbank affiliates by major industry, area, and country. Except where noted, the distributions of MOUSA shares of total assets, sales, and employment tend to be similar to those of gross product.

In manufacturing, MOUSA's accounted for 83 percent of the gross product of all U.S. manufacturing affiliates. The share was highest in food and kindred products (99 percent) and lowest in primary and fabricated metals (70 percent).

Excluding manufacturing, the share of gross product accounted for by MOUSA's was highest in wholesale trade (96 percent). It was lowest in nonbank finance (36 percent); in this industry, however, MOUSA's accounted for much larger shares of total assets and sales (86 percent and 81 percent, respectively). The MOUSA shares of total assets, sales, and employment were lowest in "other industries."

By area, the share of gross product for MOUSA's was highest for affiliates with UBO's in Europe (88 percent) and lowest for those with UBO's in the United States. By major country, MOUSA's with UBO's in the

¹² Product data on the merchandise trade of affiliates are collected only in benchmark survey years, but data on trade by industry of affiliate are collected annually. The annual data for 1977-92 show that imports by wholesale trade affiliates specializing in motor vehicles and equipment peaked in 1987 and declined thereafter.

United Kingdom had the highest share (93 percent); MOUSA's with UBO's in Australia had the lowest share (41 percent).

Although MOUSA's accounted for a dominant share of the data for all affiliates in most industries, there were a few industries in which minority-owned affiliates were important. Table 5-16 identifies, at a more detailed level of aggregation, the specific industries in which minority-owned affiliates accounted for sizable shares--at least 30 percent--of the gross product, total assets, sales, or employment of all nonbank U.S. affiliates. Minority-owned affiliates accounted for particularly large shares--more than one-half--of the gross product of affiliates in three industries: Primary ferrous metals, transportation, and communication and public utilities. Their share of gross product was just under one-half in computer and data processing services.

Table 5-1.—Selected Data of Nonbank U.S. Affiliates of Foreign Direct Investors, 1977–92

	Millions of dollars				Thousands of employees	Millions of dollars						Addendum: Gross product of affiliates as a percentage of GDP of all nonbank U.S. businesses ³
	Gross product ¹	Sales	Net income	Employee compensation		Total assets	Gross property, plant, and equipment	Expenditures for new plant and equipment	Research and development expenditures ²	U.S. merchandise exports shipped by affiliates	U.S. merchandise imports shipped to affiliates	
1977	35,222	193,991	3,966	18,781	1,218.7	143,488	66,785	7,558	933	24,858	43,896	2.3
1978	42,920	241,543	4,843	24,225	1,429.9	181,187	80,683	9,318	1,230	32,169	56,567	2.5
1979	55,424	327,870	7,301	31,686	1,753.2	228,556	101,209	11,150	1,584	44,341	63,039	2.9
1980	70,906	412,390	8,759	40,047	2,033.9	291,339	127,838	16,891	1,946	52,199	75,803	3.4
1981	98,828	510,218	11,234	54,798	2,416.6	406,985	187,956	26,716	3,110	64,066	82,259	4.2
1982	103,489	518,087	3,830	61,487	2,448.1	476,439	225,235	28,068	3,744	60,236	84,290	4.3
1983	111,490	536,640	5,584	66,807	2,546.5	531,738	244,012	23,179	4,164	53,854	81,464	4.3
1984	128,761	593,571	9,605	73,155	2,714.3	602,522	269,462	25,225	4,738	58,186	100,489	4.4
1985	134,852	632,983	5,398	79,933	2,862.2	741,077	295,181	28,919	5,240	56,401	113,331	4.3
1986	142,120	672,004	2,458	86,492	2,937.9	838,039	320,215	28,516	5,804	49,560	125,732	4.3
1987	157,869	744,617	7,820	96,009	3,224.3	943,654	353,278	33,035	6,521	48,091	143,537	4.5
1988	190,384	886,407	12,049	119,588	3,844.2	1,200,823	418,069	44,322	7,834	69,541	155,533	5.0
1989	223,420	1,056,645	9,286	144,158	4,511.5	1,431,315	489,461	55,164	9,465	86,316	171,847	5.6
1990	239,279	1,175,857	-4,535	163,592	4,734.5	1,550,238	578,355	69,580	11,522	92,308	182,936	5.7
1991 [*]	257,634	1,185,858	-11,018	175,969	4,871.9	1,752,628	640,140	69,816	11,872	96,933	178,702	6.0
1992 ^p	265,924	1,222,651	-20,492	181,709	4,705.5	1,809,950	660,817	60,861	13,603	100,615	182,152	5.8
Percent change from preceding year:												
1990	7.1	11.3	n.m.	13.5	4.9	8.3	18.2	26.1	21.7	6.9	6.5	
1991	7.7	.9	n.m.	7.6	2.9	13.1	10.7	.3	3.0	5.0	-2.3	
1992	3.2	3.1	n.m.	3.3	-3.4	3.3	3.2	-12.8	14.6	3.8	1.9	

* Revised.

^p Preliminary.

n.m. Not meaningful.

1. Data for 1988–91 are revised.

2. Research and development financed by U.S. affiliates, whether performed by themselves or by others.

3. GDP of all nonbank U.S. businesses excludes GDP of depository institutions, of government and government enterprises, and of private households; imputed GDP of owner-occupied farm and nonfarm housing; rental income of persons; business transfer payments; subsidies; and the statistical discrepancy.

GDP Gross domestic product

Table 5-2.—Sources of Change in Affiliate Employment, 1990–92

(Number of employees)

Line		1990	1991	1992
1	Change in total affiliate employment	222,991	137,464	-166,405
	Change in employment of large affiliates resulting from:			
2	New investments	481,574	291,070	99,980
3	Expansions of existing operations ...	107,892	107,364	100,028
4	Sales or liquidations of businesses .	-354,130	-152,217	-293,296
5	Cutbacks in existing operations	-126,502	-136,407	-110,151
6	Combinations of new investments and sales or liquidations of businesses	-16,924	-9,620	-7,795
7	Change not accounted for in lines 2–6	131,081	37,274	44,829

NOTE.—Lines 2–6 cover large affiliates with more than 500 employees. Coverage is limited to large affiliates because a substantial number of small affiliates changed their organizational structures, and in such cases, it is particularly difficult to determine the reasons for the changes.

All of the change in an affiliate's employment is shown on one line, even if the change was not entirely attributable to that factor, because it was impossible to disaggregate the change in an affiliate's employment by source of change.

Employment of new affiliates was classified in "new investments," and employment of affiliates that were liquidated or sold was classified in "sales and liquidations." For all other affiliates, classification depended on (1) whether the affiliate's employment increased or decreased, (2) whether the affiliate acquired another business during the year, or (3) whether the affiliate sold a business or business segment during the year.

Line 2 equals the yearend employment of affiliates that were acquired or established during the year plus the change in employment of existing affiliates that had an increase in employment and had acquired another U.S. business during the year.

Line 3 equals the change in employment of affiliates that did not acquire another U.S. business, but had an increase in employment.

Line 4 equals the employment at the end of the prior year of affiliates that were liquidated or sold during the year plus the change in employment of affiliates that had a decline in employment and sold a business or business segment during the year.

Line 5 equals the change in employment of affiliates that did not sell a business or business segment, but had a decline in employment.

Line 6 equals the change in employment of affiliates that both acquired and sold a business or business segment during the year.

Line 7 equals the change in employment of large affiliates not accounted for in lines 2–6 plus all changes in employment for affiliates with fewer than 500 employees. It includes changes resulting from the addition to the survey universe of affiliates that were required to report in earlier years but did not.

Table 5-3.—Employment by Nonbank U.S. Affiliates, by Industry of Affiliate, by Industry of Sales, and by Country of Ultimate Beneficial Owner, 1990–92

	Thousands of employees					Percent change	
	1990	1991	1992	Change		1991	1992
				1991	1992		
All Industries, all countries	4,734.5	4,871.9	4,705.5	137.4	-166.4	3	-3
By Industry of affiliate							
Petroleum	149.4	137.0	122.2	-12.4	-14.8	-8	-11
Manufacturing	2,220.7	2,233.6	2,231.7	12.9	-1.9	1	(*)
Food and kindred products	247.3	241.0	242.5	-6.3	1.5	-3	1
Chemicals and allied products	512.5	508.3	515.3	-4.2	7.0	-1	1
Primary and fabricated metals	255.5	270.2	266.3	14.7	-3.9	6	-1
Machinery	509.1	509.0	492.1	-1	-16.9	(*)	-3
Other manufacturing	696.4	705.1	715.4	8.7	10.3	1	1
Wholesale trade	429.9	448.3	443.7	18.4	-4.6	4	-1
Retail trade	744.7	797.5	707.1	52.8	-90.4	7	-11
Finance, except banking ¹	53.8	57.9	55.1	4.1	-2.8	8	-5
Insurance	133.3	152.9	152.5	19.6	-4	15	(*)
Real estate	43.3	41.6	37.9	-1.7	-3.7	-4	-9
Services	570.3	615.2	600.8	44.9	-14.4	8	-2
Other industries	389.0	387.9	354.7	-1.1	-33.2	(*)	-9
By country							
Canada	739.1	724.1	587.9	-15.0	-136.2	-2	-19
Europe	2,894.6	2,979.5	2,888.8	84.9	-90.7	3	-3
Of which:							
France	338.9	364.9	358.7	26.0	-6.2	8	-2
Germany	516.2	517.2	519.5	1.0	2.3	(*)	(*)
Netherlands	286.5	298.5	306.1	12.0	7.6	4	3
Switzerland	273.6	279.0	295.1	5.4	16.1	2	6
United Kingdom	1,050.9	1,077.1	961.4	26.2	-115.7	2	-11
Latin America and Other Western Hemisphere	134.5	133.2	132.0	-1.3	-1.2	-1	-1
Africa	17.1	14.9	15.7	-2.2	.8	-13	5
Middle East	25.3	28.3	31.0	3.0	2.7	12	10
Asia and Pacific	890.6	959.6	956.0	69.0	-3.6	8	(*)
Of which:							
Australia	166.2	155.0	137.8	-11.2	-17.2	-7	-11
Japan	629.2	719.4	728.2	90.2	8.8	14	1
United States	33.1	32.3	94.1	-8	61.8	-2	191

* Less than 0.5 percent (±).

1. Data for 1992 exclude savings institutions and credit unions, which were reclassified to banking.

Table 5-4.—Net Income and Profit-Type Return of Nonbank U.S. Affiliates, by Industry of Affiliate, 1991 and 1992

[Millions of dollars]

	Net income		Profit-type return ¹	
	1991	1992	1991	1992
All Industries	-11,018	-20,492	-1,669	2,103
Petroleum	508	-450	2,962	2,855
Manufacturing	-3,265	-8,661	169	1,882
Food and kindred products	210	226	236	440
Chemicals and allied products	3,886	-1,288	4,386	4,443
Primary and fabricated metals	-1,072	-2,114	-572	-475
Machinery	-3,105	-2,366	-1,992	-1,531
Other manufacturing	-3,186	-3,119	-1,890	-994
Wholesale trade	-1,284	-223	6	865
Retail trade	-614	-2,113	125	-142
Finance, except banking	-839	828	75	525
Insurance	2,602	2,274	1,498	1,908
Real estate	-3,370	-4,850	-2,291	-2,703
Services	-3,737	-3,067	-3,295	-2,253
Of which:				
Hotels and other lodging places	-1,458	-1,591	-1,504	-1,593
Motion pictures, including television tape and film	-1,365	-1,175	-1,220	-618
Other industries	-1,019	-4,231	-919	-835
Of which:				
Transportation	-1,046	-1,371	-1,252	-1,192
Communication and public utilities	-274	-2,347	-492	-40

1. This measure of operating profits is a component of gross product originating in U.S. affiliates. It is before income taxes; excludes capital gains, income from investments, and other nonoperating income; is before deduction of depletion charges; and includes an inventory valuation adjustment.

Table 5-5.—Gross Product of Nonbank U.S. Affiliates and of All Nonbank U.S. Businesses by Industry, 1987–92

	U.S. affiliates ¹						All U.S. businesses ²						U.S. affiliates as a percentage of all U.S. businesses					
	1987	1988	1989	1990	1991	1992	1987	1988	1989	1990	1991	1992	1987	1988	1989	1990	1991	1992
All Industries ..	157,869	190,384	223,420	239,279	257,634	265,924	3,479,900	3,775,800	4,016,800	4,222,900	4,321,700	4,548,100	4.5	5.0	5.6	5.7	6.0	5.8
Manufacturing	91,271	108,914	129,127	140,249	144,116	152,752	870,200	952,200	995,100	1,015,100	1,017,200	1,096,800	10.5	11.4	13.0	13.8	14.2	13.9
Wholesale trade	20,761	23,059	25,267	26,874	31,075	34,701	300,500	328,300	349,400	361,000	373,100	392,400	6.9	7.0	7.2	7.4	8.3	8.8
Retail trade	10,457	13,964	16,667	17,521	22,001	19,657	439,800	469,600	500,300	513,400	530,000	559,100	2.4	3.0	3.3	3.4	4.2	3.5
Finance, except banking ³	8,884	9,252	10,816	3,442	4,034	3,637	53,800	52,200	57,900	56,200	65,300	64,900	16.5	17.7	18.7	6.1	6.2	5.6
Insurance	5,067	5,304	3,959	5,835	6,789	6,402	80,700	97,800	102,100	107,200	127,400	121,700	6.3	5.4	3.9	5.4	5.3	5.3
Real estate	4,830	5,209	6,530	6,763	7,039	5,582	162,500	182,500	193,800	204,700	204,600	218,400	3.0	2.9	3.4	3.3	3.4	2.6
Services	6,974	11,153	13,276	17,533	18,362	20,300	769,100	851,800	935,300	1,025,700	1,075,800	1,098,600	.9	1.3	1.4	1.7	1.7	1.8
Other industries	9,623	13,528	17,778	21,061	24,217	22,896	803,300	841,400	882,900	939,500	928,300	996,200	1.2	1.6	2.0	2.2	2.6	2.3

1. In this table, petroleum is not shown as a separate industry. Instead, in order to be consistent with the all-U.S.-business data, affiliate gross product in the various petroleum subindustries is distributed among the other industries. Thus, manufacturing includes petroleum and coal products, wholesale trade includes petroleum wholesale trade, and "other industries" includes oil and gas extraction, petroleum tanker operations, pipelines, petroleum storage for hire, and gasoline service stations.

2. The gross-product data for all U.S. businesses in 1987–91 were estimated by adjusting the gross-product-

by-industry data in the national income and product accounts to exclude depository institutions, private households, business transfer payments, subsidies, rental income of persons, and the gross product imputed for owner-occupied farm and nonfarm housing. The 1992 gross-product figures by industry were estimated by assuming that each industry's share in the gross product of all industries combined was equal to its average share for the three years 1989–91.

3. Affiliate data for 1987–91 include, but data for 1992 exclude, savings institutions and credit unions.

Table 5-6.—Gross Product of Nonbank U.S. Affiliates by Country of Ultimate Beneficial Owner, 1987–92

	Millions of dollars						Percent					
	1987	1988	1989	1990	1991	1992	1987	1988	1989	1990	1991	1992
All countries	157,869	190,384	223,420	239,279	257,634	265,924	100.0	100.0	100.0	100.0	100.0	100.0
Canada	29,031	35,384	35,984	38,304	39,289	33,372	18.4	18.6	16.1	16.0	15.3	12.5
Europe	94,113	111,522	129,952	139,824	149,305	160,230	59.6	58.6	58.2	58.4	58.0	60.3
France	8,434	10,828	13,226	14,934	17,132	19,528	5.3	5.7	5.9	6.2	6.6	7.3
Germany ¹	15,400	17,905	20,844	24,133	25,733	27,563	9.8	9.4	9.3	10.1	10.0	10.4
Netherlands	15,789	17,517	19,120	18,255	18,607	19,872	10.0	9.2	8.6	7.6	7.2	7.5
Switzerland	8,773	10,589	14,441	14,604	15,290	16,966	5.6	5.6	6.5	6.1	5.9	6.4
United Kingdom	33,096	40,048	47,249	53,259	55,017	57,145	21.0	21.0	21.1	22.3	21.4	21.5
Other	12,621	14,634	15,072	14,639	17,525	19,156	8.0	7.7	6.7	6.1	6.8	7.2
Latin America and Other Western Hemisphere	6,098	7,119	8,584	8,639	9,137	8,910	3.9	3.7	3.8	3.6	3.5	3.4
Africa	1,729	1,289	1,195	1,260	1,241	1,262	1.1	.7	.5	.5	.5	.5
Middle East	1,775	2,608	4,225	3,142	3,919	3,408	1.1	1.4	1.9	1.3	1.5	1.3
Asia and Pacific	23,202	30,423	41,655	46,269	52,551	54,842	14.7	16.0	18.6	19.3	20.4	20.6
Australia	3,250	4,127	7,399	8,096	8,809	8,370	2.1	2.2	3.3	3.4	3.4	3.1
Japan	17,510	24,014	31,098	34,484	40,056	43,134	11.1	12.6	13.9	14.4	15.5	16.2
Other	2,441	2,282	3,158	3,689	3,686	3,338	1.5	1.2	1.4	1.5	1.4	1.3
United States	1,921	2,041	1,825	1,842	2,191	3,900	1.2	1.1	.8	.8	.9	1.5

1. For the years prior to 1990, includes data only for the Federal Republic of Germany. Beginning with 1990, also includes the former German Democratic Republic (GDR). This change has no effect on the data because there were no U.S. affiliates of the former GDR prior to 1990.

Table 5-7.—Employment by Nonbank U.S. Affiliates and by All Nonbank U.S. Businesses, by Industry, 1987–92

	Thousands of employees												U.S. affiliates as a percentage of all U.S. businesses					
	U.S. affiliates ¹						All U.S. businesses ²						1987	1988	1989	1990	1991	1992
	1987	1988	1989	1990	1991	1992	1987	1988	1989	1990	1991	1992						
All industries ³	3,224	3,844	4,511	4,734	4,872	4,706	86,721	89,674	91,404	92,621	91,315	91,771	3.7	4.3	4.9	5.1	5.3	5.1
Manufacturing	1,472	1,732	1,993	2,114	2,159	2,108	19,119	19,517	19,525	19,207	18,536	18,180	7.7	8.9	10.2	11.0	11.6	11.6
Petroleum and coal products	71	82	86	90	91	78	162	160	153	155	157	155	(4)	(4)	(4)	(4)	(4)	(4)
Chemicals and allied products	269	289	318	332	341	346	1,027	1,063	1,081	1,093	1,083	1,083	26.2	27.2	29.4	30.4	31.4	32.0
Stone, clay, and glass products	82	90	107	110	102	108	564	573	570	558	524	513	14.5	15.6	18.7	19.7	19.5	21.0
Electric and electronic equipment	202	243	275	271	276	262	1,687	1,774	1,746	1,675	1,593	1,525	12.0	13.7	15.7	16.2	17.3	17.2
Primary metal industries	90	81	97	112	111	111	741	771	772	756	723	693	12.2	10.6	12.6	14.8	15.4	16.1
Rubber and plastics products	56	93	101	129	126	130	857	868	892	891	865	879	6.6	10.7	11.3	14.5	14.5	14.8
Food and kindred products	137	177	203	207	211	198	1,630	1,643	1,649	1,666	1,672	1,656	8.4	10.8	12.3	12.4	12.6	11.9
Instruments and related products	76	85	101	112	118	109	1,028	1,035	1,025	1,005	973	929	7.4	8.2	9.9	11.2	12.1	11.8
Motor vehicles and equipment	56	63	76	90	96	91	854	852	854	808	785	818	6.6	7.4	8.9	11.2	12.2	11.1
Machinery, except electrical	121	160	213	218	220	209	2,062	2,119	2,139	2,109	2,012	1,928	5.9	7.5	9.9	10.3	10.9	10.8
Fabricated metal products	58	85	100	101	109	108	1,414	1,438	1,447	1,421	1,357	1,330	4.1	5.9	6.9	7.1	8.0	8.1
Paper and allied products	46	47	48	50	52	51	677	689	698	699	690	690	6.9	6.8	6.8	7.1	7.6	7.3
Printing and publishing	83	95	108	109	103	102	1,530	1,581	1,589	1,602	1,569	1,535	5.4	6.0	6.8	6.8	6.6	6.6
Textile mill products	27	34	33	37	40	44	732	733	724	695	674	676	3.7	4.6	4.6	5.4	5.9	6.5
Other transportation equipment	12	27	33	41	50	50	1,165	1,184	1,196	1,179	1,104	1,018	1.0	2.3	2.8	3.5	4.5	4.9
Apparel and other textile products	12	16	26	28	29	29	1,106	1,103	1,086	1,046	1,016	1,016	1.1	1.5	2.4	2.7	2.9	2.8
Lumber, wood, furniture, and fixtures	25	29	24	28	32	29	1,291	1,322	1,306	1,263	1,173	1,177	1.9	2.2	1.9	2.2	2.7	2.4
Other	47	38	45	49	52	55	592	609	598	586	566	559	7.9	6.2	7.5	8.3	9.2	9.9
Mining	68	73	81	93	88	78	718	718	693	712	690	636	9.4	10.2	11.7	13.0	12.7	12.3
Insurance	81	111	122	127	144	142	2,162	2,230	2,164	2,199	2,232	2,204	3.7	5.0	5.6	5.8	6.5	6.4
Finance, except banking ⁵	79	96	92	54	65	68	1,044	1,048	1,026	1,035	1,042	1,089	7.5	9.2	9.0	5.3	6.2	6.3
Wholesale trade	282	294	322	355	344	348	5,984	6,139	6,259	6,245	6,151	6,148	4.7	4.8	5.1	5.7	5.6	5.7
Transportation	87	124	174	221	218	182	3,238	3,379	3,469	3,586	3,560	3,569	2.7	3.7	5.0	6.1	6.1	5.1
Retail trade	633	772	948	848	890	799	19,144	19,753	20,145	20,273	19,948	20,072	3.3	3.9	4.7	4.2	4.5	4.0
Services ⁶	329	426	529	660	719	706	24,850	26,169	27,270	28,443	28,779	29,748	1.3	1.6	1.9	2.3	2.5	2.4
Real estate	31	31	31	34	33	31	1,305	1,350	1,442	1,462	1,443	1,427	2.3	2.3	2.1	2.3	2.3	2.2
Communication and public utilities	14	14	23	29	29	49	2,204	2,211	2,208	2,262	2,251	2,218	.6	.6	1.0	1.3	1.3	2.2
Agriculture, forestry, and fishing	18	20	33	33	44	31	1,806	1,856	1,838	1,879	1,853	1,818	1.0	1.1	1.8	1.8	2.4	1.7
Construction	57	63	72	80	73	68	5,147	5,304	5,365	5,318	4,830	4,662	1.1	1.2	1.3	1.5	1.5	1.5
Unspecified ⁷	70	81	85	78	61	95	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

n.a. Not applicable.

1. Classified by industry of sales. In this table, petroleum is not shown as a separate major industry. Instead, in order to be consistent with the all-U.S.-business data, affiliate employment in the various petroleum subindustries is distributed among the other major industries. Thus, manufacturing includes petroleum and coal products, wholesale trade includes petroleum wholesale trade, retail trade includes gasoline service stations, and so on.

2. Classified by industry of establishment. These data are from table 6.4C of the "National Income and Product Accounts (NIPA) Tables" in the January 1992 and August 1993 issues of the SURVEY OF CURRENT BUSINESS. The total is equal to employment in private industries less the employment of depository institutions and private households. All-U.S. employment totals in this table differ from those shown in table 6, the data in table 6 are from BEA's Regional Economic Information System and are derived as the sum of the State estimates. The estimates in table 6, unlike those in this table, do not exclude employment in depository institutions, but do exclude U.S. residents temporarily employed abroad by U.S. businesses. They may also differ from the NIPA estimates in this table because of different data sources and revision schedules.

3. For consistency with the coverage of the all-U.S.-business employment data, U.S. affiliate employment in Puerto Rico, in "other U.S. areas," and in the "foreign" category was excluded from the U.S.-affiliate employment total when the percentage shares on this line were computed.

4. The affiliate and all-U.S.-business employment data in petroleum and coal products are not comparable and, hence, are not shown here, because affiliate employment in this industry includes a substantial number of nonmanufacturing employees. When a rough adjustment is made to remove the nonmanufacturing employees from the affiliate data, the affiliate share of all-U.S.-business employment in petroleum and coal products is about 28 percent in 1988, 36 percent in 1989, 39 percent in 1990, 39 percent in 1991, and 31 percent in 1992.

5. Excludes savings institutions and credit unions, which was reclassified to banking in the 1987 Standard Industrial Classification.

6. Excludes private households.

7. In the breakdown of employment by industry of sales, U.S. affiliates that filed long forms in the annual surveys had to specify their eight largest sales categories, and U.S. affiliates that filed short forms had to specify their three largest sales categories. Employment in all unspecified industries combined is shown on this line.

Table 5-8.—Employment by Nonbank U.S. Affiliates and by All U.S. Businesses, by State, 1987-92

[Thousands of employees]

	Nonbank U.S. affiliates						All U.S. businesses ¹						Nonbank U.S. affiliates as a percent- age of all U.S. businesses					
	1987	1988	1989	1990	1991	1992	1987	1988	1989	1990	1991	1992	1987	1988	1989	1990	1991	1992
Total²	3,224	3,844	4,512	4,735	4,872	4,706	88,062	90,997	93,320	94,510	92,596	93,022	3.6	4.2	4.8	5.0	5.2	5.0
New England	208	250	290	281	286	267	5,747	5,890	5,870	5,661	5,347	5,306	3.6	4.2	4.9	5.0	5.4	5.0
Connecticut	57	72	88	76	81	82	1,483	1,509	1,502	1,459	1,382	1,354	3.8	4.8	5.8	5.2	5.9	6.0
Maine	21	24	27	27	27	24	425	449	461	452	430	428	4.8	5.4	5.9	5.9	6.2	5.6
Massachusetts	93	110	129	131	129	114	2,759	2,823	2,797	2,682	2,526	2,508	3.4	3.9	4.6	4.9	5.1	4.5
New Hampshire	19	22	25	26	28	28	459	473	470	447	422	427	4.1	4.7	5.3	5.8	6.7	6.5
Rhode Island	11	12	13	13	14	12	410	416	417	403	378	376	2.6	2.9	3.1	3.3	3.7	3.3
Vermont	6	8	8	8	7	8	210	219	224	219	210	212	2.9	3.6	3.7	3.5	3.4	3.5
Mideast	741	838	928	930	957	892	16,772	17,151	17,363	17,283	16,641	16,449	4.4	4.9	5.3	5.4	5.8	5.4
Delaware	37	42	42	43	42	36	283	295	307	309	302	302	13.0	14.2	13.7	13.9	13.7	11.9
District of Columbia	7	9	11	11	11	10	407	422	428	433	417	411	1.7	2.1	2.5	2.6	2.7	2.4
Maryland	54	62	72	80	77	75	1,705	1,772	1,815	1,819	1,742	1,727	3.2	3.5	3.9	4.4	4.4	4.3
New Jersey	173	204	223	227	230	216	3,127	3,186	3,213	3,150	2,995	2,962	5.5	6.4	6.9	7.2	7.7	7.3
New York	303	343	377	348	372	340	6,909	7,006	7,042	6,989	6,634	6,552	4.4	4.9	5.4	5.0	5.6	5.2
Pennsylvania	167	179	204	222	226	215	4,342	4,466	4,557	4,583	4,501	4,496	3.8	4.0	4.5	4.8	5.0	4.8
Great Lakes	520	655	773	813	819	807	15,368	15,873	16,317	16,551	16,331	16,475	3.4	4.1	4.7	4.9	5.0	4.9
Illinois	168	214	245	246	250	246	4,358	4,494	4,593	4,649	4,585	4,575	3.9	4.8	5.3	5.3	5.5	5.4
Indiana	67	83	98	127	125	126	2,000	2,090	2,164	2,198	2,185	2,226	3.4	4.0	4.5	5.8	5.7	5.7
Michigan	96	116	143	140	139	140	3,198	3,279	3,391	3,434	3,352	3,394	3.0	3.5	4.2	4.1	4.1	4.1
Ohio	133	170	208	219	221	213	4,005	4,126	4,227	4,276	4,203	4,228	3.3	4.1	4.9	5.1	5.3	5.0
Wisconsin	55	71	79	81	84	82	1,807	1,884	1,943	1,995	2,006	2,052	3.0	3.8	4.1	4.1	4.2	4.0
Plains	143	185	235	248	267	258	6,330	6,552	6,748	6,878	6,874	6,999	2.3	2.8	3.5	3.6	3.9	3.7
Iowa	20	29	31	33	34	33	920	969	1,010	1,035	1,046	1,062	2.2	3.0	3.1	3.2	3.2	3.1
Kansas	20	28	31	30	35	27	841	865	888	908	911	926	2.4	3.2	3.5	3.3	3.8	3.0
Minnesota	40	51	82	90	95	94	1,703	1,763	1,814	1,847	1,852	1,896	2.4	2.9	4.5	4.9	5.1	5.0
Missouri	50	59	72	74	78	77	1,919	1,974	2,022	2,039	1,999	2,025	2.6	3.0	3.6	3.6	3.9	3.8
Nebraska	8	13	14	15	17	16	553	574	595	612	616	626	1.4	2.2	2.3	2.4	2.7	2.6
North Dakota	3	3	3	3	4	5	193	197	200	206	211	217	1.4	1.4	1.4	1.5	2.0	2.4
South Dakota	2	3	3	5	5	6	201	210	219	231	238	248	.9	1.4	1.5	1.9	2.1	2.3
Southeast	808	950	1,106	1,153	1,192	1,174	19,668	20,456	21,050	21,421	21,096	21,463	4.1	4.6	5.3	5.4	5.6	5.5
Alabama	35	42	65	56	65	61	1,239	1,284	1,320	1,348	1,350	1,380	2.9	3.3	4.9	4.1	4.8	4.4
Arkansas	21	26	32	29	30	31	712	739	762	783	790	815	3.0	3.5	4.2	3.7	3.8	3.8
Florida	124	154	178	206	211	195	4,283	4,473	4,632	4,716	4,608	4,666	2.9	3.4	3.8	4.4	4.6	4.2
Georgia	122	144	157	161	163	154	2,373	2,454	2,501	2,526	2,462	2,518	5.2	5.9	6.3	6.4	6.6	6.1
Kentucky	39	48	56	66	71	69	1,112	1,161	1,203	1,235	1,229	1,260	3.5	4.1	4.7	5.3	5.8	5.5
Louisiana	51	56	65	61	62	62	1,200	1,233	1,256	1,300	1,315	1,325	4.3	4.6	5.2	4.7	4.7	4.7
Mississippi	18	20	24	24	24	24	688	716	737	750	752	771	2.5	2.8	3.3	3.1	3.1	3.1
North Carolina	134	157	177	181	181	191	2,483	2,593	2,659	2,695	2,642	2,698	5.4	6.1	6.6	6.7	6.8	7.1
South Carolina	76	85	101	105	110	111	1,159	1,220	1,258	1,295	1,261	1,267	6.5	7.0	8.1	8.1	8.7	8.8
Tennessee	82	98	114	117	120	122	1,735	1,809	1,871	1,894	1,880	1,933	4.7	5.4	6.1	6.2	6.4	6.3
Virginia	80	93	106	113	119	120	2,210	2,291	2,363	2,377	2,304	2,321	3.6	4.0	4.5	4.8	5.2	5.2
West Virginia	25	27	29	35	35	34	473	482	490	503	503	510	5.4	5.5	6.0	6.9	6.9	6.7
Southwest	295	338	381	418	428	434	8,016	8,207	8,398	8,663	8,724	8,830	3.7	4.1	4.5	4.8	4.9	4.9
Arizona	44	48	54	57	57	53	1,201	1,234	1,261	1,279	1,271	1,298	3.6	3.9	4.3	4.5	4.5	4.1
New Mexico	14	15	16	17	15	14	409	421	432	445	449	462	3.4	3.6	3.7	3.9	3.3	2.9
Oklahoma	27	38	42	44	44	44	887	910	932	959	967	980	3.1	4.2	4.5	4.5	4.6	4.5
Texas	210	236	270	300	313	324	5,519	5,642	5,773	5,979	6,037	6,090	3.8	4.2	4.7	5.0	5.2	5.3
Rocky Mountain	53	63	74	100	110	108	2,336	2,405	2,500	2,590	2,650	2,745	2.3	2.6	3.0	3.9	4.2	3.9
Colorado	28	34	42	56	62	61	1,192	1,215	1,254	1,289	1,308	1,355	2.4	2.8	3.3	4.4	4.7	4.5
Idaho	4	6	8	12	13	14	271	286	302	318	329	344	1.5	2.0	2.6	3.7	3.9	3.9
Montana	4	4	4	5	6	5	215	222	230	237	244	254	1.7	1.7	1.8	2.2	2.3	2.1
Utah	13	15	16	21	24	23	519	541	570	597	617	638	2.4	2.8	2.8	3.5	3.9	3.6
Wyoming	4	4	4	6	6	6	138	140	144	149	152	154	3.1	2.8	2.9	3.9	3.7	3.6
Far West	407	502	635	695	710	667	13,297	13,915	14,490	14,852	14,309	14,124	3.1	3.6	4.4	4.7	5.0	4.7
California	335	407	515	556	561	522	10,373	10,818	11,200	11,406	10,853	10,614	3.2	3.8	4.6	4.9	5.2	4.9
Nevada	11	14	20	23	25	23	454	490	531	567	570	576	2.3	2.8	3.7	4.0	4.4	4.0
Oregon	21	25	31	39	42	43	916	967	1,018	1,051	1,046	1,063	2.3	2.6	3.0	3.7	4.0	4.0
Washington	41	56	70	78	82	79	1,554	1,639	1,741	1,829	1,840	1,870	2.6	3.4	4.0	4.2	4.5	4.2
Alaska	8	8	11	13	13	10	148	151	162	171	175	179	5.1	5.0	6.5	7.7	7.6	5.4
Hawaii	27	35	45	53	56	53	381	397	421	442	450	451	7.2	8.8	10.7	12.0	12.5	11.7
Puerto Rico	13	15	19	16	19	20	.....	.....	.....	.....	.....	.....	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Other U.S. areas ³	4	5	9	9	10	10	.....	.....	.....	.....	.....	.....	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Foreign ⁴	2	3	6	5	4	5	.....	.....	.....	.....	.....	.....	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

n.a. Not available.

1. The data on employment of all U.S. businesses are from BEA's Regional Economic Information System. The totals are equal to employment in private industries less employment of private households. The all-U.S.-business employment totals shown in this table differ significantly from those shown in table 7, which are from table 6.4C of the "National Income and Product Accounts (NIPA) Tables" in the January 1992 and August 1993 issues of the SURVEY OF CURRENT BUSINESS. The all-U.S. employment data in this table are derived as the sum of the State estimates. They differ from the NIPA estimates of employment because they include banking end, by definition, they exclude U.S. residents temporarily employed abroad by U.S. businesses. They also may differ from the NIPA

estimates because of different data sources and revision schedules.

2. For consistency with the coverage of the all-U.S.-business employment data, U.S. affiliate employment in Puerto Rico, in "other U.S. areas," and in "foreign" was excluded from the U.S. affiliate employment total when the percentage shares on this line were computed.

3. Consists of the U.S. Virgin Islands, Guam, American Samoa, U.S. offshore oil and gas sites, and all other outlying U.S. areas.

4. Consists of employees of U.S. affiliates working abroad.

**Table 5-9.—Research and Development Performed by
Nonbank U.S. Affiliates and by All U.S. Businesses, 1992**

	R&D expenditures		Addendum: Nonbank U.S. affiliates as a percent- age of all U.S. busi- nesses
	By nonbank U.S. affiliates	By all U.S. businesses ¹	
	Millions of dollars		
Total	13,693	107,800	12.7
For Federal Government	169	28,800	.6
For private companies	13,524	79,000	17.1
For self	12,956	n.a.	n.a.
For others	568	n.a.	n.a.
	Percent		
Total	100.0	100.0	.....
For Federal Government	1.2	26.7	.....
For private companies	98.8	73.3	.....
For self	94.6	n.a.	.....
For others	4.1	n.a.	.....

n.a. Not available

1. These estimates are from National Science Foundation, *Selected Data on Research and Development in Industry: 1991*, NSF 93-322, (Arlington, VA, 1993). The estimates cover all U.S. businesses, including banks.

R&D Research and development

Table 5-10.—Research and Development Intensity of Nonbank U.S. Affiliates and of All U.S. Businesses, by Industry, 1992

	Privately funded R&D performed by nonbank U.S. affiliates, in millions of dollars			R&D employment of nonbank U.S. affiliates, in thousands	Measures of R&D intensity ¹			
	Total	For U.S. affiliates themselves	For others		Privately funded R&D as a percentage of sales ²		R&D employment as a percentage of total employment ³	
					R&D-performing nonbank U.S. affiliates, 1992	All R&D-performing U.S. companies, 1991 ⁴	R&D-performing nonbank U.S. affiliates, 1992	All R&D-performing U.S. companies, 1991 ⁴
All Industries	13,524	12,956	568	103.9	2.6	3.0	4.8	4.3
Petroleum	584	559	25	3.7	1.1	1.1	4.5	2.4
Manufacturing	11,155	10,822	333	86.4	3.3	3.8	4.9	n.a.
Food and kindred products	257	257	0	2.1	.8	.4	1.2	.6
Chemicals and allied products	6,069	5,867	202	37.6	5.1	5.7	7.6	7.6
Industrial chemicals	2,388	2,261	127	14.1	3.7	4.8	5.2	5.6
Drugs	3,189	3,169	20	18.3	11.7	9.7	14.6	11.3
Other ⁵	492	437	55	5.1	1.9	3.5	5.1	6.5
Primary metal industries	175	166	9	1.7	.8	1.1	1.8	(S)
Ferrous	53	45	8	.6	.5	.6	1.1	(S)
Nonferrous	123	122	1	1.1	1.1	1.7	2.6	(S)
Fabricated metal products	141	141	(*)	1.3	.9	1.0	1.5	(S)
Machinery, except electrical	1,105	1,055	50	9.5	3.5	9.2	5.3	8.4
Computer and office equipment	795	755	40	5.5	8.0	16.1	12.2	15.4
Other	310	300	10	4.0	1.4	4.0	3.0	3.3
Electric and electronic equipment	2,002	1,955	47	20.1	4.4	4.7	7.6	7.8
Audio, video, and communications equipment	1,150	1,119	31	12.7	6.8	4.3	14.9	(S)
Electronic components	278	275	3	2.8	3.8	8.7	6.4	(S)
Other	573	561	12	4.6	2.7	2.4	3.4	(S)
Textile products and apparel	41	41	0	.5	1.1	.4	1.5	(S)
Lumber and furniture	9	7	2	.2	.5	.7	1.6	(S)
Paper and allied products	63	62	1	.6	.8	.8	1.5	1.2
Printing and publishing	48	39	9	.9	.9	.6	2.5	.8
Rubber and plastics products	247	247	(*)	2.1	1.8	1.8	2.3	(S)
Stone, clay, and glass products	118	118	(*)	1.2	1.2	2.6	1.9	3.0
Transportation equipment	217	215	2	2.5	2.1	4.1	4.3	7.8
Motor vehicles and equipment	84	83	1	1.0	1.6	4.5	4.0	5.3
Other	133	132	1	1.5	2.7	3.6	4.5	9.5
Instruments and related products	596	586	10	5.6	4.3	7.8	5.6	(S)
Other	64	64	0	.6	1.0	n.a.	2.1	n.a.
Wholesale trade	1,029	863	166	7.7	.9	n.a.	3.9	n.a.
Of which:								
Motor vehicles and equipment	287	259	28	1.9	.7	n.a.	4.3	n.a.
Professional and commercial equipment	186	138	48	1.5	1.8	n.a.	4.9	n.a.
Electrical goods	252	211	41	2.0	1.1	n.a.	4.0	n.a.
Services	597	554	43	4.9	6.9	n.a.	7.8	n.a.
Of which:								
Computer and data processing services	375	355	20	3.5	13.1	n.a.	19.9	n.a.
Engineering and architectural services	20	20	(*)	.3	.6	n.a.	1.7	n.a.
Accounting, research, and management services	174	152	22	.9	34.7	n.a.	18.0	n.a.
Other ⁶	159	158	1	1.2	1.8	n.a.	2.4	n.a.

² Data withheld by National Science Foundation because of imputation of more than 50 percent.

n.a. Not available.

³ Less than \$500,000.

1. Comparisons between the research-intensity measures for R&D-performing U.S. affiliates and all R&D-performing U.S. companies should be viewed as approximate; see footnote 11 in text.

2. Sales used to calculate shares exclude sales by companies with no R&D.

3. Employment used to calculate shares excludes employment of companies with no R&D.

4. These shares are calculated from data in National Science Foundation, *Selected Data on Research and Development in Industry: 1991*, NSF 93-322, (Arlington, VA, 1993). The data cover all R&D-performing U.S. companies, including banks. Data for 1992 are not yet available.

5. Includes soap, cleaners, and toilet goods.

6. Consists of retail trade; finance, except banking; insurance; real estate; and other industries.

R&D Research and development

Table 5-11.—Employment of Nonbank U.S. Affiliates Covered by Collective Bargaining Agreements, 1992

[Thousands]

	Union employment	Total employment	Union employment as a percentage of total employment	Addendum: Union employment of all U.S. businesses as a percentage of their total employment ¹
All Industries	921.0	4,705.5	19.6	12.5
Manufacturing ²	546.4	2,318.2	23.6	21.0
Durable goods	299.7	1,106.2	27.2	22.7
Of which:				
Primary metal industries	72.2	139.8	51.6	n.a.
Fabricated metal products	34.3	126.6	27.1	n.a.
Machinery, except electrical	43.5	207.0	21.0	n.a.
Electric and electronic equipment	63.3	285.1	22.2	n.a.
Stone, clay, and glass products	42.9	114.7	37.4	n.a.
Motor vehicles and equipment	19.4	55.9	34.7	n.a.
Instruments and related products	8.8	107.9	8.2	n.a.
Nondurable goods ²	247.0	1,218.0	20.3	18.7
Of which:				
Food and kindred products	60.0	242.5	24.7	n.a.
Chemicals and allied products	80.0	515.3	15.5	n.a.
Petroleum and coal products	11.0	86.5	12.7	n.a.
Paper and allied products	26.0	54.6	47.6	n.a.
Printing and publishing	11.9	109.6	10.9	n.a.
Rubber and plastics products	40.5	105.6	38.4	n.a.
Wholesale trade	41.8	443.7	9.4	7.5
Retail trade	143.8	707.1	20.3	7.2
Finance, insurance, and real estate ³	2.4	245.5	1.0	2.9
Services	71.6	600.8	11.9	7.1
Mining ⁴	16.4	62.6	26.2	16.1
Construction	19.3	59.1	32.7	21.1
Transportation	62.3	177.2	35.2	30.3
Communication and public utilities	13.3	52.0	25.6	36.3
Other ⁵	3.7	39.3	9.4	2.8

n.a. Not available.

1. Estimates are from household survey data reported in Bureau of Labor Statistics, *Employment and Earnings*, January 1994. These estimates include employees of banks.

2. Includes petroleum and coal products manufacturing.

3. For U.S. affiliate data, excludes banks.

4. Includes oil and gas extraction.

5. For U.S. affiliates, consists of agriculture, forestry, and fishing plus those industries in petroleum other than petroleum and coal products manufacturing and oil and gas extraction. For all U.S. businesses, consists of agriculture.

Table 5-12.—Total U.S. Merchandise Trade and Merchandise Trade of Nonbank U.S. Affiliates by Product, 1987 and 1992

	Millions of dollars				Trade by nonbank U.S. affiliates as a percentage of total U.S. trade	
	Total U.S. trade ¹		Trade by nonbank U.S. affiliates		1987	1992
	1987	1992	1987	1992		
Exports, total	243,859	448,164	48,091	100,615	19.7	22.5
Food	19,179	33,884	9,835	17,618	51.3	52.0
Beverages and tobacco	3,667	7,145	869	1,364	23.7	19.1
Crude materials, inedible, except fuels	20,416	25,866	6,103	8,748	29.9	33.8
Petroleum and products	4,283	6,839	2,564	5,145	59.9	75.2
Coal and coke	3,430	4,428	1,327	1,090	38.7	24.6
Chemicals	26,381	44,638	8,055	15,102	30.5	33.8
Machinery	69,637	138,720	7,465	19,895	10.7	14.3
Road vehicles and parts	21,004	38,191	793	4,617	3.8	12.1
Other transport equipment	17,955	38,527	775	3,894	4.3	10.1
Metal manufactures	6,896	16,227	3,412	5,815	49.5	35.8
Other	51,012	93,700	6,895	17,326	13.5	18.5
Imports, total	405,900	532,665	143,537	182,152	35.4	34.2
Food	20,547	23,185	6,400	6,643	31.1	28.7
Beverages and tobacco	4,105	5,371	1,739	3,305	42.4	61.5
Crude materials, inedible, except fuels	11,526	13,931	4,193	4,890	36.4	35.1
Petroleum and products	44,033	54,247	10,915	18,668	24.8	34.4
Coal and coke	186	419	23	175	12.4	41.8
Chemicals	16,213	27,655	7,112	13,463	43.9	48.7
Machinery	99,433	148,300	35,790	55,595	36.0	37.5
Road vehicles and parts	72,709	75,477	47,416	36,739	65.2	48.7
Other transport equipment	5,667	8,252	1,544	3,319	27.2	40.2
Metal manufactures	25,144	27,326	10,662	13,120	42.4	48.0
Other	106,337	148,502	17,747	26,237	16.7	17.7

1. Data are from the Census Bureau.

Table 5-13.—Exports by Product, and Imports by Product and by Intended Use, of Nonbank U.S. Affiliates, 1987 and 1992

[Millions of dollars]

	1987				1992			
	All industries	Manufacturing	Wholesale trade	Other	All industries	Manufacturing	Wholesale trade	Other
Exports, total	48,091	15,487	29,165	3,439	100,615	39,700	53,443	7,472
By product:								
Food	9,835	448	9,260	127	17,618	1,724	15,407	487
Beverages and tobacco	869	459	(^D)	(^D)	1,364	1,276	(^D)	(^D)
Crude materials, inedible, except fuels	6,103	619	5,209	275	8,748	519	7,185	1,044
Petroleum and products	2,564	85	2,256	223	5,145	91	3,408	1,646
Coal and coke	1,327	(^D)	459	(^D)	1,090	(^D)	173	(^D)
Chemicals	8,055	5,379	1,830	846	15,102	10,226	4,396	480
Machinery	7,465	3,956	3,355	154	19,895	11,302	7,903	690
Road vehicles and parts	793	383	408	2	4,617	1,599	2,987	31
Other transport equipment	775	177	(^D)	(^D)	3,894	961	2,879	54
Metal manufactures	3,412	710	2,643	59	5,815	3,214	2,585	16
Other	6,895	(^D)	(^D)	(^D)	17,326	(^D)	(^D)	(^D)
Imports, total	143,537	24,546	107,278	11,713	182,152	50,919	109,833	21,400
By product:								
Food	6,400	834	5,419	147	6,643	1,804	4,488	351
Beverages and tobacco	1,739	840	(^D)	(^D)	3,305	1,312	1,933	60
Crude materials, inedible, except fuels	4,193	1,332	2,786	75	4,890	1,109	3,583	198
Petroleum and products	10,915	(^D)	1,075	(^D)	18,668	(^D)	985	(^D)
Coal and coke	23	7	(^D)	(^D)	175	26	149	0
Chemicals	7,112	4,092	2,823	197	13,463	9,268	3,801	394
Machinery	35,790	7,845	27,693	252	55,595	17,980	37,218	397
Road vehicles and parts	47,416	1,393	46,018	5	36,739	4,478	32,261	0
Other transport equipment	1,544	799	720	25	3,319	741	2,090	488
Metal manufactures	10,662	2,481	7,930	251	13,120	5,484	7,344	292
Other	17,747	(^D)	(^D)	(^D)	26,237	(^D)	15,981	(^D)
By intended use:								
Capital equipment	n.a.	n.a.	n.a.	n.a.	1,722	815	158	749
Goods for resale without further manufacture	109,408	5,526	98,823	5,059	127,499	14,559	102,496	10,444
Goods for further manufacture	n.a.	n.a.	n.a.	n.a.	52,931	35,544	7,179	10,208

^D Suppressed to avoid disclosure of data of individual companies.
n.a. Not available.

Table 5-14.—Total U.S. Merchandise Trade and U.S. Merchandise Trade of Nonbank U.S. Affiliates, by Country of Destination and Origin, 1992

(Millions of dollars)

	Total U.S. trade ¹	Trade of nonbank U.S. affiliates by selected country of UBO								Addendum: Trade by nonbank U.S. affiliates as a percentage of total U.S. trade
		All countries	Of which:							
			Canada	France	Germany	Netherlands	Switzerland	United Kingdom	Japan	
Exports by country of destination										
All countries	448,164	100,615	7,342	10,876	7,569	3,337	4,894	8,553	41,464	22.5
Canada	90,594	10,580	2,183	835	1,465	442	539	1,287	2,525	11.7
Europe	122,617	21,634	2,002	4,295	2,784	1,203	1,714	2,913	3,696	17.6
Belgium and Luxembourg	10,047	1,971	(D)	190	318	88	21	105	305	19.6
France	14,593	1,995	(D)	698	170	79	74	274	309	13.7
Germany	21,249	3,386	239	166	1,540	95	152	383	559	15.9
Italy	8,721	986	(D)	95	109	41	56	152	119	11.3
Netherlands	13,752	1,507	(D)	127	33	434	135	179	211	11.0
Spain	5,537	660	26	213	65	8	20	83	54	11.9
Sweden	2,845	380	(D)	16	17	20	22	47	70	13.4
Switzerland	4,540	1,206	(D)	23	50	92	694	71	114	26.6
United Kingdom	22,800	5,512	546	840	288	300	98	1,316	1,612	24.2
Other	18,533	4,031	103	1,927	194	46	442	303	343	21.8
Latin America and Other Western Hemisphere	75,800	8,271	925	1,255	730	411	561	667	1,572	10.9
Brazil	5,751	1,275	(D)	131	92	47	109	83	184	22.2
Mexico	40,592	3,840	308	855	397	233	182	276	747	9.5
Venezuela	5,444	758	114	58	59	45	88	112	135	13.9
Other	24,013	2,398	(D)	211	182	86	182	196	506	10.0
Africa	9,907	1,797	(D)	638	67	(D)	252	42	208	18.1
Middle East	16,873	1,823	(D)	475	113	(D)	81	239	163	10.8
Saudi Arabia	7,167	898	24	(D)	63	(D)	(D)	63	43	12.5
Other	9,706	925	(D)	(D)	50	(D)	(D)	176	120	9.5
Asia and Pacific	132,070	48,580	1,643	2,714	1,684	808	1,323	2,318	31,367	36.8
Australia	8,876	993	170	78	82	55	39	180	197	11.2
China	7,418	2,824	(D)	(D)	(D)	9	212	23	384	38.1
Hong Kong	9,077	1,040	(D)	34	80	54	17	388	(D)	11.5
Japan	47,813	31,856	686	839	406	236	397	1,082	26,551	66.6
Korea, Republic of	14,639	4,785	180	190	305	146	341	194	909	32.7
Malaysia	4,363	312	14	(D)	29	(D)	4	35	173	7.2
Singapore	9,626	1,500	(D)	(D)	147	85	43	120	532	15.6
Taiwan	15,250	2,921	(D)	367	194	78	67	186	1,464	19.2
Thailand	3,989	512	(D)	21	(D)	(D)	(D)	33	229	12.8
Other	11,019	1,837	124	118	(D)	72	(D)	77	(D)	16.7
Unallocated		7,930	477	664	726	273	425	1,088	1,932	
Imports by country of origin										
All countries	532,665	182,152	11,324	7,684	18,515	7,966	5,365	13,419	84,370	34.2
Canada	98,630	13,208	8,008	578	665	342	209	724	1,162	13.4
Europe	112,727	44,585	1,134	4,112	15,031	2,820	3,902	6,821	880	39.6
Belgium and Luxembourg	4,703	2,050	(D)	46	(D)	51	38	172	58	43.6
France	14,797	4,680	154	2,936	187	64	102	502	104	31.6
Germany	28,820	15,739	(D)	159	14,091	178	462	175	116	54.6
Italy	12,314	1,905	13	60	137	42	104	135	70	15.5
Netherlands	5,300	2,852	(D)	(D)	43	2,105	25	66	88	53.8
Spain	3,002	252	1	11	37	6	19	26	34	8.4
Sweden	4,716	2,934	(D)	9	15	(D)	15	104	7	62.2
Switzerland	5,645	4,274	17	6	63	12	2,924	(D)	(D)	75.7
United Kingdom	20,093	6,459	303	365	148	185	75	4,505	185	32.1
Other	13,337	3,440	135	(D)	(D)	(D)	138	(D)	(D)	25.8
Latin America and Other Western Hemisphere	68,755	14,301	1,023	710	850	1,658	523	1,670	1,018	20.8
Brazil	7,609	2,021	(D)	80	278	44	147	368	173	26.6
Mexico	35,211	4,513	437	405	390	(D)	73	108	601	12.8
Venezuela	8,181	4,367	(D)	77	26	(D)	26	349	36	53.4
Other	17,754	3,400	(D)	148	156	(D)	277	845	208	19.2
Africa	14,346	4,085	(D)	114	27	(D)	63	(D)	(D)	28.5
Middle East	15,726	4,172	0	0	57	6	10	(D)	(D)	26.5
Saudi Arabia	10,371	(D)	0	0	(D)	3	5	0	1	(D)
Other	5,355	(D)	0	0	(D)	3	5	(D)	(D)	(D)
Asia and Pacific	222,502	94,585	(D)	1,571	946	(D)	334	1,480	79,383	42.5
Australia	3,688	1,058	(D)	(D)	(D)	(D)	(D)	109	58	28.7
China	25,728	1,349	1	(D)	59	18	10	291	256	5.2
Hong Kong	9,793	2,699	197	27	217	193	5	141	784	27.6
Japan	97,414	75,392	(D)	309	297	385	76	149	73,502	77.4
Korea, Republic of	16,682	5,413	13	(D)	87	(D)	(D)	32	1,064	32.4
Malaysia	8,294	1,211	(D)	(D)	(D)	(D)	0	53	371	14.6
Singapore	11,313	2,316	(D)	(D)	98	(D)	14	120	1,406	20.5
Taiwan	24,596	2,358	28	26	56	252	32	184	998	9.6
Thailand	7,529	1,074	(D)	(D)	(D)	81	0	52	458	14.3
Other	17,465	1,715	(D)	(D)	101	(D)	50	349	486	9.8
Unallocated		7,216	343	600	938	123	324	875	1,631	

^D Suppressed to avoid disclosure of data of individual companies.

1. Data are from the Census Bureau.

UBO Ultimate beneficial owner

Table 5-15.—Selected Data of Majority-Owned Nonbank U.S. Affiliates, by Industry of Affiliate and by Country of Ultimate Beneficial Owner, 1991 and 1992

	1991								1992							
	Millions of dollars			Thou- sands of em- ployees	Majority-owned affiliates as a per- centage of all nonbank affiliates				Millions of dollars			Thou- sands of em- ployees	Majority-owned affiliates as a per- centage of all nonbank affiliates			
	Gross product	Total assets	Sales		Gross product	Total assets	Sales	Em- ploy- ment	Gross product	Total assets	Sales		Gross product	Total assets	Sales	Em- ploy- ment
All Industries, all countries	207,126	1,396,153	1,008,388	3,991.3	80.4	79.7	85.0	81.9	215,542	1,443,361	1,043,129	3,914.7	81.1	79.7	85.3	83.2
By industry																
Petroleum	21,024	83,787	91,086	119.8	85.1	85.7	86.5	87.4	21,116	81,946	96,298	103.6	83.5	85.7	86.1	84.8
Manufacturing	103,257	369,415	339,306	1,875.3	82.0	81.7	83.6	84.0	110,680	386,456	357,761	1,896.8	82.6	81.7	83.8	85.0
Food and kindred products	12,082	47,123	46,567	237.6	98.5	97.5	97.7	98.6	12,222	47,514	45,750	237.0	99.0	93.1	97.8	97.7
Chemicals and allied products	28,377	108,517	88,454	385.1	72.8	73.4	76.9	75.8	31,692	119,861	96,496	406.0	76.1	74.4	78.1	78.8
Primary and fabricated metals	9,946	33,193	34,506	180.6	66.9	64.4	67.7	66.8	10,965	34,817	38,471	193.5	69.6	66.4	71.7	72.7
Machinery	21,967	70,923	73,246	448.6	88.5	88.2	88.8	88.1	22,752	73,517	77,726	440.2	88.1	88.4	89.7	89.5
Other manufacturing	30,885	109,659	96,534	623.4	88.3	88.5	88.1	88.4	33,048	110,747	99,318	620.1	86.1	86.6	85.3	86.7
Wholesale trade	26,110	168,738	339,758	414.7	91.8	95.1	94.9	92.5	30,571	179,482	356,570	415.3	95.8	95.8	95.3	93.6
Retail trade	18,114	45,445	72,335	678.4	84.5	87.6	82.4	85.1	15,009	34,812	64,257	581.1	78.4	83.6	78.6	82.2
Finance, except banking	1,955	331,151	27,090	37.0	48.5	86.6	80.9	63.9	1,320	330,242	24,430	34.1	36.3	85.6	81.1	61.9
Insurance	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Real estate	5,233	90,487	12,909	33.1	74.3	80.9	77.8	79.6	4,443	90,556	12,107	34.6	79.6	84.8	84.2	91.3
Services	13,844	79,985	35,267	496.3	75.4	85.6	79.2	80.7	16,718	85,485	38,500	530.5	82.4	87.2	84.0	88.3
Other industries	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
By country																
Canada	25,841	179,712	90,481	561.7	65.8	77.1	73.6	77.6	22,168	165,087	81,029	454.6	66.4	77.8	72.7	77.3
Europe	133,258	724,012	539,527	2,559.8	89.3	82.2	88.2	85.9	141,665	764,427	575,185	2,515.5	88.4	82.7	88.5	87.1
Of which:																
France	15,646	(D)	69,215	307.8	91.3	(D)	77.8	84.4	17,286	(D)	72,876	298.2	88.5	(D)	78.4	83.1
Germany	21,765	109,293	97,546	420.4	84.6	92.5	86.6	81.3	23,465	119,019	104,872	431.9	85.1	93.1	87.7	83.1
Netherlands	17,076	(D)	69,265	273.5	91.8	(D)	94.1	91.6	18,106	(D)	72,552	269.1	91.1	(D)	93.3	87.9
Switzerland	14,203	112,209	60,431	264.1	92.9	97.1	94.8	94.7	15,634	121,977	67,684	275.4	92.1	96.2	91.9	93.3
United Kingdom	51,495	253,037	176,154	962.6	93.6	87.2	92.3	89.4	53,213	257,477	186,343	903.2	93.1	87.3	93.3	93.9
Latin America and Other Western Hemisphere	6,461	23,954	27,601	105.3	70.7	60.4	80.4	79.1	7,132	26,199	27,937	105.5	80.0	60.7	83.6	79.9
Africa	463	3,174	2,361	8.7	37.3	(D)	52.9	58.4	(D)	3,110	(D)	(D)	(D)	(D)	(D)	(D)
Middle East	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1,141	16,422	(D)	21.5	33.5	65.8	(D)	69.4
Asia and Pacific	38,583	445,874	336,275	721.2	73.4	85.8	88.1	75.2	40,416	463,511	342,157	731.6	73.7	85.6	87.6	76.5
Of which:																
Australia	4,248	32,635	19,638	74.2	48.2	67.4	57.9	47.9	3,431	30,933	15,942	57.3	41.0	67.1	52.2	41.6
Japan	31,484	383,911	295,547	580.2	78.6	87.5	91.4	80.7	34,276	399,229	304,400	599.5	79.5	87.1	90.9	82.3
United States	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	4,604	(D)	(D)	(D)	(D)	(D)	(D)

^D Suppressed to avoid disclosure of data of individual companies.

Table 5-16.—Percentage of Gross Product, Total Assets, Sales, and Employment of All Nonbank U.S. Affiliates Accounted for by Minority-Owned Affiliates in Selected Industries, 1992

	Gross product	Total assets	Sales	Employment
Petroleum, other than petroleum and coal products manufacturing	27.9	12.3	29.4	31.9
Industrial chemicals and synthetics	M	M	M	M
Primary ferrous metals	59.5	53.7	58.6	58.8
Primary nonferrous metals	34.9	29.1	34.6	28.0
Office and computing machines	M	24.8	35.0	22.3
Paper and allied products	38.6	36.0	42.2	40.1
Miscellaneous plastics products	21.1	23.4	34.0	24.5
Other transportation equipment	31.1	26.3	30.6	26.5
Farm-product raw materials wholesale trade	M	L	L	N
Finance, except banking	14.4	18.9	63.7	38.1
Insurance	M	L	M	L
Computer and data processing services	47.2	41.7	49.2	44.5
Other services	L	M	N	M
Agriculture, forestry, and fishing	32.2	31.5	50.9	47.0
Coal mining	35.9	29.7	37.3	35.1
Construction	16.2	30.1	18.8	16.6
Transportation	57.6	61.9	59.6	59.1
Communication and public utilities .	N	M	M	L

NOTE.—The industries listed in this table are those in which minority-owned affiliates account for at least 30 percent of the gross product, assets, sales, or employment of all nonbank U.S. affiliates. Ranges are given for shares that are suppressed to avoid the disclosure of data of individual companies. The ranges are: L—30 percent or less; M—More than 30 percent but not more than 50 percent; N—More than 50 percent.

Merchandise Trade of U.S. Affiliates of Foreign Companies

by William J. Zeile*

U.S. affiliates of foreign companies account for a large share of total U.S. merchandise trade. In 1991, nonbank U.S. affiliates accounted for 23 percent of U.S. merchandise exports and for 37 percent of imports, compared with only 5 percent of the employment and 6 percent of the gross domestic product of all nonbank U.S. businesses. In most recent years, their trade deficit has amounted to more than 50 percent of the total U.S. merchandise trade deficit.

Perhaps because it accounts for such a large share of total U.S. merchandise trade and of the total U.S. merchandise trade deficit, U.S.-affiliate trade has figured prominently in the public dialog on U.S. trade performance and on the economic consequences of foreign direct investment in the United States. Some have expressed concern, for example, that much of this trade may represent imports of parts and components for assembly by foreign-owned plants that are set up in the United States to circumvent trade barriers on finished goods, displacing domestically owned facilities that produce their own components or purchase them from domestic sources.

Examination of the data collected in BEA's annual and benchmark surveys of foreign direct investment in the United States indicates that, although U.S. affiliates in manufacturing do import more than they export, they account for only a small portion--less than one-eighth--of the total affiliate trade deficit. Furthermore, the bulk of the output of these affiliates is composed, not of imports, but of domestic (U.S.) content—that is, content largely attributable to locally obtained labor, capital, and purchased inputs. Most of the deficit for affiliates is accounted for by wholesale trade affiliates rather than manufacturing affiliates. These wholesale trade affiliates have a considerably higher propensity to import, and a correspondingly lower domestic content, than manufacturing affiliates; their primary function typically is to facilitate importation of goods, such as automobiles or consumer electronics, that were manufactured abroad by their foreign parents and that the affiliates resell, with little or no further processing

or assembly, to unaffiliated U.S. customers. The overall effect of these wholesale trade affiliates on trade flows is unclear: On the one hand, many of their imports probably would be brought into the country by unaffiliated U.S. wholesalers even in their absence; on the other hand, for some products, such as autos, affiliates allow foreign parent companies to expand their exports to the United States above the levels that otherwise would be possible, by helping to provide services to customers and to obtain information on market conditions in the United States.

This chapter examines in detail BEA's data on U.S.-affiliate merchandise trade for 1977-91. It compares the merchandise trade of U.S. affiliates with that of all U.S. businesses and analyzes trade patterns by investing country. It also examines the degree to which U.S. affiliates rely on imports as a source of inputs to their U.S. production. The following are highlights from the chapter:

- Wholesale trade affiliates have consistently accounted for a dominant share of the merchandise exports and imports of U.S. affiliates, and in the past decade they have accounted for more than 70 percent of the affiliate trade deficit. Since the mid-1980's, imports by wholesale trade affiliates have been more than double their exports. (Foreign wholesale trade affiliates of U.S. companies have run similarly large deficits with the United States; in the past decade, their imports from the United States have generally been more than triple their exports to the United States.)
- A large part of the trade deficit of U.S. wholesale trade affiliates is related to imports of motor vehicles. Since 1977, affiliates selling motor vehicles and equipment have accounted for more than one-half of the trade deficit of U.S. wholesale trade affiliates and for more than 40 percent of the total affiliate deficit.
- Among affiliates of the seven major investing countries, Japanese-owned affiliates have consistently accounted for the largest share of affiliate trade--about 40 percent of exports and 50 percent of

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imports since the mid-1980's. All but a small share of their trade has been by wholesale trade affiliates, which primarily serve as distribution channels for exported and imported goods. In manufacturing, the share of affiliate trade accounted for by Japanese-owned affiliates has been much closer to that by affiliates of the other major investing countries.

- Compared with trade of other affiliates, trade of Japanese-owned affiliates has been very concentrated geographically, most of it being with Japan. Unlike other U.S. affiliates, Japanese-owned U.S. affiliates handle a dominant share of both U.S. exports to, and U.S. imports from, their country of ultimate ownership.
- Much of the merchandise trade of affiliates, particularly on the import side, is intrafirm trade with the affiliates' foreign parent groups. Intrafirm trade has accounted for a particularly large share of the imports by wholesale trade affiliates, reflecting the role of these affiliates as U.S. distributors for their parent companies.
- U.S. affiliates in manufacturing have relied on imports for about one-sixth of their purchased parts and other intermediate inputs, compared with about one-tenth for U.S.-owned manufacturers. Most of the total output of manufacturing affiliates--88 percent of it in 1991--has represented domestic (U.S.) content, in the form either of value added through affiliate production or of inputs purchased from other U.S. companies.

Overview of U.S.-Affiliate Merchandise Trade

The share of U.S. merchandise trade accounted for by U.S. affiliates of foreign companies has been sizable --roughly one-fifth of U.S. exports and one-third of U.S. imports--since at least 1977, when BEA began collecting annual data on trade by U.S. affiliates (Table 6-1). In 1991, affiliates' share of U.S. exports was 23 percent, and their share of U.S. imports was 37 percent. The 23-percent export share is approximately equal to the average share for the period as a whole. The 37-percent import share, in contrast, marks the period's high, the result of a steady increase in share during the latter half of the 1980's.

In every year since 1977, U.S. affiliates' total imports have been much larger than their total exports. In all years except 1984 and 1985, their trade deficit amounted to more than one-half of the total U.S. merchandise trade deficit; in 1980 and 1991, their deficit was larger than the total deficit. In interpreting these findings, however, one should keep in mind that the

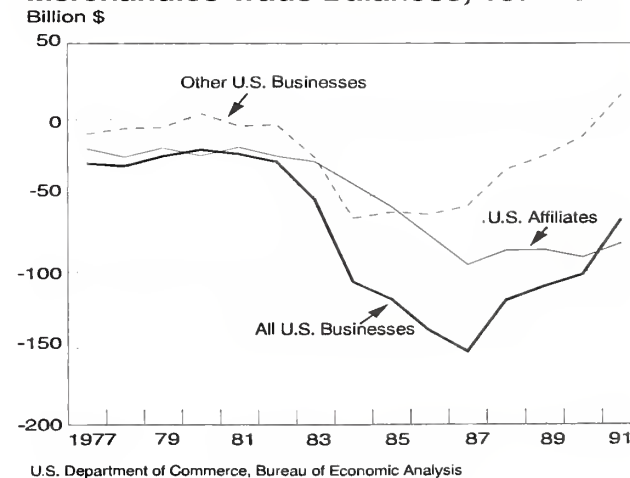
trading behavior of U.S. affiliates of foreign companies, although important, may be overshadowed in the determination of the total U.S. trade deficit by broader factors related to exchange rates, differences between U.S. and foreign rates of economic growth, and differences between rates of saving and investment in the United States and abroad. Even though affiliates import much more than they export, it cannot necessarily be inferred that the U.S. trade deficit would be smaller in the absence of foreign direct investment. As mentioned earlier, U.S. affiliates are often used to facilitate imports that would have been brought into the country even in their absence, and some imports are used by affiliates to support production of goods in the United States that otherwise would have been produced entirely abroad and then imported.

Since 1984, there has been a persistent increase in the affiliate share of the trade deficit. The increase in share since 1986 largely reflects a steady improvement in the trade balance of domestically owned U.S. businesses, rather than an increase in the affiliate deficit, which has held at over \$80 billion (Figure 6-1).

Since 1988, the ratio of imports to exports, which measures the relative propensity of U.S. affiliates to import and export, has been about double the ratio for domestically owned U.S. businesses, with both ratios showing a declining trend. The ratio for domestically owned U.S. businesses increased steadily in the early 1980's, to a high of 1.39 in 1984, and then began a steady decline; this pattern closely paralleled the rise and fall of the U.S. dollar in foreign exchange markets.¹ In contrast, the ratio for U.S. affiliates increased dramatically in the mid-1980's, to a high of 2.98 in 1987,

¹ The trade-weighted value of the U.S. dollar increased in every year from 1980 to 1985, then generally trended downward through 1991.

Figure 6-1
Merchandise Trade Balances, 1977-91



before beginning its current downtrend. As of 1991, U.S. affiliates' imports continued to exceed their exports by more than 80 percent.

The large and sustained trade deficit for U.S. affiliates can be explained largely by the activity of wholesale trade affiliates, many of which serve as the principal distribution channel for products imported from their parent companies. Wholesale trade affiliates dominated the merchandise trade of all U.S. affiliates in each year during 1977-91; in the last decade, they accounted for over 70 percent of the total affiliate trade deficit (Table 6-2). Since 1985, wholesale trade affiliates' imports have been more than twice as large as their exports. In each year during 1985-91, about 80 percent of the imports by these affiliates were from their foreign parent groups.² As might be expected, wholesale trade affiliates--like most wholesalers--simply resell the goods they import: According to data from BEA's 1987 benchmark survey, more than 90 percent of the imports by these affiliates were goods for resale without any further processing, assembly, or manufacture by the affiliates.³

Because many wholesale trade affiliates are established expressly to market the products of their parent companies, it is not surprising that they import much more than they export. Indeed, a similar pattern may be observed for the foreign wholesale trade affiliates of U.S. companies, which regularly run large trade deficits with the United States: In the past decade, imports from the United States by these affiliates have generally been more than triple their exports to the United States.⁴

A large part of the trade deficit of U.S. wholesale trade affiliates is related to imports of motor vehicles. In every year during 1977-91, affiliates selling motor vehicles and equipment accounted for more than 30 percent of total imports by U.S. wholesale trade affiliates; in 1984-89, their share was more than 40 percent. Given that their exports are relatively small, these affiliates have consistently accounted for more than one-half of the trade deficit of U.S. wholesale trade affiliates and for more than 40 percent of the total affiliate deficit.

² The foreign parent of a U.S. affiliate is the first person outside the United States in the affiliate's ownership chain that has a direct investment interest in the affiliate. The affiliate's foreign parent group consists of (1) the foreign parent, (2) any person, proceeding up the foreign parent's ownership chain, that owns more than 50 percent of the person below it, up to and including the ultimate beneficial owner (see footnote 8), and (3) any foreign person, proceeding down the ownership chain(s) of each of these members, that is owned more than 50 percent by the person above it.

³ BEA's benchmark surveys of foreign direct investment in the United States, which are conducted every 5 years, include many data items that are not collected annually. At the time this chapter was written, the latest benchmark survey covered 1987. Preliminary results from the 1992 benchmark survey are presented in Chapter 5 of this report.

⁴ Data on the U.S. merchandise trade of foreign affiliates of U.S. companies are collected in annual and benchmark surveys of U.S. direct investment abroad. For the most recent data, see "U.S. Multinational Companies: Operations in 1992," *Survey of Current Business* (June 1994): 42.

U.S. affiliates in "other industries" have also had a high import/export ratio (more than 3.0 in most years since 1986), but their share of the total affiliate deficit has been much smaller than that for wholesale trade affiliates. Their high import/export ratio reflects large imports and relatively negligible exports by affiliates in petroleum.⁵ In 1979-82, when world oil prices were very high, affiliates in "other industries" accounted for over one-third of the total affiliate deficit, but as oil prices subsequently declined, their share of the deficit also declined; by 1985, it had fallen below 10 percent. Their share of the deficit increased from 8 percent in 1988 to 14 percent in 1989, reflecting a large increase in imports by petroleum affiliates.

U.S. affiliates in manufacturing have consistently accounted for less than one-eighth of the total affiliate deficit. The import/export ratio for these affiliates has generally been much lower than that for wholesale trade affiliates or for affiliates in "other industries." In 1988-91, the imports of manufacturing affiliates exceeded their exports by less than one-third. This deficit partly reflects a reliance on imports for materials and components used in production for the U.S. market. (This topic is examined in the final section of this chapter.) It may also reflect wholesale trade activities by manufacturing affiliates.⁶

Manufacturing affiliates' shares of both exports and imports of all U.S. affiliates have increased steadily since the late 1970's. Their share of exports rose from 14 percent in 1977 to 40 percent in 1991; the most rapid gains were during 1985-90. Their share of imports rose from 13 percent in 1977 to 27 percent in 1991; the most rapid gains were during 1987-90. The shares of wholesale trade affiliates declined correspondingly, from 80 percent to 53 percent for exports and from 71 percent to 62 percent for imports.

The recent increase in the share of U.S.-affiliate trade accounted for by manufacturing affiliates partly reflects the rapid growth in foreign direct investment in the United States in the late 1980's, particularly in manufacturing. From 1985 to 1990, total assets of manufacturing affiliates increased 152 percent (from \$170 billion to \$429 billion), whereas total assets of wholesale trade affiliates increased 109 percent (from \$77 billion to \$160 billion). During the same period, total sales of manufacturing affiliates increased 113 percent (from \$186 billion to \$396 billion), whereas total sales of wholesale trade affiliates increased only 56 percent (from \$241 billion to \$375 billion).

⁵ In all years except 1985 and 1986, petroleum affiliates accounted for more than 80 percent of total imports by affiliates in "other industries."

⁶ The data collected by BEA are on an enterprise basis, with all of the affiliate's activities consolidated on a single report. Because each affiliate is classified by primary industry according to the composition of its sales, an affiliate's operations in secondary industries will appear as part of the data for its primary industry. A number of affiliates whose primary activity is manufacturing are engaged in wholesale trading as a secondary activity.

U.S.-Affiliate Trade by Country of Ownership

This section compares the merchandise trade of U.S. affiliates of the seven largest investing countries: Canada, France, Germany, Japan, the Netherlands, Switzerland, and the United Kingdom.⁷ In every year since 1977, affiliates with ultimate beneficial owners (UBO's) in these countries have accounted for more than 80 percent of total merchandise exports and imports of U.S. affiliates (Table 6-3).⁸ Japanese-owned affiliates have accounted for the largest shares--about 40 percent of exports and 50 percent of imports in most years since the mid-1980's. In terms of exports, French-owned affiliates have consistently ranked second to Japanese-owned affiliates, accounting for 12 percent of affiliate exports in 1991; in terms of imports, German-owned affiliates have generally ranked second, accounting for 10 percent of affiliate imports in 1991.

The large share of total affiliate trade accounted for by Japanese-owned affiliates far exceeds their share of U.S.-affiliate gross product (15 percent in 1991) and predates the dramatic increase in Japanese direct investment in the United States that occurred in the late 1980's. As early as 1977 (when their share of U.S.-affiliate gross product was only 7 percent), Japanese-owned affiliates accounted for 42 percent of U.S.-affiliate exports and 37 percent of U.S.-affiliate imports. Their export share changed little thereafter, but their import share increased significantly--from 36 percent in 1980 to a peak of 51 percent in 1985.

The merchandise trade of Japanese-owned affiliates has been dominated by wholesale trade affiliates. Through the mid-1980's, these affiliates accounted for more than 95 percent of the U.S. exports and imports of Japanese-owned affiliates. Although that share began to decline thereafter, it was still high--84 percent--in 1991.

Most of the exports by Japanese-owned affiliates have been by wholesale trade affiliates of Japanese trading companies, whereas most of the imports have been by wholesale trade affiliates of Japanese manufacturing companies. In 1991, wholesale trade affiliates of Japanese trading companies accounted for 73 percent of the total exports by Japanese-owned affiliates but for only 27 percent of their total imports. More than three-fourths of these exports and imports were by affiliates of the *sogo shosha*, Japan's big general trading companies.⁹ Wholesale trade affiliates of Japanese manufactur-

ing companies accounted for 57 percent of the total imports by Japanese-owned affiliates; more than 90 percent of the imports by these wholesale trade affiliates were by affiliates specializing in motor vehicles, electrical goods, or office equipment.

For each of the other major investing countries, wholesale trade affiliates have generally accounted for a much smaller share of affiliate trade. They have, however, accounted for a large share of the exports by French-owned affiliates and of the imports by German-owned affiliates. In 1991, they accounted for about 50 percent of the exports by French-owned affiliates (down from 78 percent in 1987); almost all of the exports by French-owned wholesale trade affiliates were by affiliates specializing in farm-product raw materials. Wholesale trade affiliates accounted for 57 percent of the imports by German-owned affiliates; most of the imports by German-owned wholesale trade affiliates were by affiliates of Germany's major automobile manufacturers. For each of the other four major investing countries, wholesale trade affiliates accounted for less than one-third of both the exports and the imports by U.S. affiliates.

In manufacturing, the affiliate-trade shares among the major investing countries have been much more evenly distributed than in all industries combined. For exports, affiliates with UBO's in five of the countries (the United Kingdom, Japan, Germany, France, and Canada) each accounted for roughly 15 percent of the total exports by manufacturing affiliates in 1991. For imports, Japanese-owned affiliates accounted for the largest share (29 percent), followed by German-owned affiliates (14 percent). The sizable share of Japanese-owned affiliates in manufacturing-affiliate trade is a fairly recent phenomenon: In 1987, their export share was only 7 percent (much lower than the shares for Canadian-, German-, and British-owned affiliates), and their import share was 17 percent (slightly below the shares for German- and Canadian-owned affiliates). The increase in share for Japanese-owned affiliates after 1987 reflects the substantial increase in Japanese ownership in U.S. manufacturing industries that occurred in the late 1980's.¹⁰ The trade share for French-owned affiliates increased sharply in 1988 after a large French electronics company acquired the consumer electronics business of a large U.S. company. For most of the 1980's, Canadian-owned affiliates accounted for the largest share of manufacturing-affiliate exports and

⁷ The seven countries are the largest investors in terms of affiliate employment, sales, and gross product. In 1991, affiliates of these countries together accounted for 82 percent of the employment, sales, and gross product of all U.S. affiliates.

⁸ An affiliate's UBO is that person, proceeding up the affiliate's ownership chain, beginning with and including the foreign parent, that is not owned more than 50 percent by another person.

⁹ The *sogo shosha* have long served an important role as intermediate agents for much of Japan's trade with other countries, especially for trade in bulk commodities. See Alexander K. Young, *The Sogo Shosha: Japan's Multinational Trading Companies* (Boulder, Colorado: Westview Press, 1979).

¹⁰ The share of Japanese-owned manufacturing affiliates in the gross product of all manufacturing affiliates increased every year from 1987 to 1990, from 6 percent in 1987 to 12 percent in 1990.

imports; a significant part of this trade, however, was by a large minority-owned company.

In every year since 1977, imports have exceeded exports for affiliates with UBO's in Canada, Germany, Japan, the Netherlands, and the United Kingdom. This pattern can be traced mainly to the strong import orientation of the wholesale trade affiliates of these countries; in 1991, imports by these affiliates exceeded exports by more than 2 to 1 (Table 6-4). In some cases, the import/export ratio was much higher: Imports by German-owned wholesale trade affiliates exceeded exports by more than 10 to 1, and imports by Canadian-owned wholesale trade affiliates exceeded exports by more than 5 to 1. For affiliates with UBO's in the Netherlands and the United Kingdom, a substantial portion of the trade deficit was in "other industries," reflecting large imports and minimal exports by affiliates in petroleum.

In contrast to the pattern for affiliates of the other five countries, exports have usually exceeded imports for affiliates with UBO's in France and Switzerland. French-owned affiliates had trade surpluses every year during 1977-91, primarily because of substantial exports by a few wholesale trade affiliates in farm-product raw materials, which are major exporters of grain. Swiss-owned affiliates had surpluses prior to 1985 and again in 1990 and 1991.

In manufacturing, the import/export ratio in 1991 was close to unity for affiliates of most of the major investing countries; affiliates with UBO's in France, Switzerland, and the United Kingdom had moderate trade surpluses. In contrast, Japanese-owned affiliates imported more than twice as much as they exported, reflecting their reliance on imports as inputs to production (see the final section of this chapter).

Merchandise Trade by Product, 1987

This section discusses data on U.S.-affiliate trade by broad product category, which are available from the 1987 benchmark survey. Table 6-5 presents the product-level data on exports and imports by all U.S. affiliates, by affiliates of the seven major investing countries, and by all U.S. businesses.

Exports.--In 1987, U.S. affiliates accounted for roughly one-half or more of total U.S. exports in food, petroleum and products, and metal manufactures. For each of these product categories, more than three-fourths of the affiliate exports were by wholesale trade affiliates. In contrast, the affiliate shares of U.S. exports of road vehicles and of other transport equipment were very low, at less than 5 percent each.

By country, Japanese-owned affiliates accounted for the largest share of affiliate exports in 8 of the 11 product groups--including petroleum (over 80 percent),

metal manufactures (70 percent), crude materials (58 percent), and food (47 percent). In each of these eight product groups, most of the exports by Japanese-owned affiliates were by wholesale trade affiliates of Japanese trading companies.

Among affiliates of the seven major investing countries, French-owned affiliates had the least diversified exports by product: Over one-half of their exports were of food products, shipped mostly by a few wholesale trade affiliates specializing in grain. Affiliates of the other six countries had exports that were considerably more diversified. Exports by Japanese- and British-owned affiliates were the most diverse: No one product group accounted for more than one-fourth of their exports.

Imports.--In 1987, U.S. affiliates accounted for almost two-thirds of total U.S. imports of road vehicles and parts and for over 40 percent of total imports of chemicals, beverages and tobacco, and metal manufactures. Wholesale trade affiliates accounted for 97 percent of the affiliate imports of road vehicles and parts and for most of the affiliate imports of metal manufactures; manufacturing affiliates accounted for most of the affiliate imports of chemicals and of beverages and tobacco.

By country, Japanese-owned affiliates accounted for the largest share of affiliate imports in 8 of the 11 product categories; they had majority shares in machinery (72 percent) and road vehicles and parts (66 percent). German-owned affiliates also accounted for a sizable share of U.S.-affiliate imports in road vehicles and parts (20 percent).

Among affiliates of the seven major investing countries, affiliates with UBO's in the Netherlands, Germany, and Japan had the least diversified imports by product. For Netherlands-owned affiliates, petroleum and machinery made up over three-fourths of total imports. For German-owned affiliates, over one-half of the imports were of road vehicles and parts, nearly all of which were imported by wholesale trade affiliates of German automobile manufacturers. For Japanese-owned affiliates, over three-fourths of the imports were of machinery or of road vehicles and parts, most of which were imported by wholesale trade affiliates of Japanese manufacturing companies.

Merchandise Trade by Country of Destination and Origin, 1987

This section discusses data on the geographic destination and origin of U.S.-affiliate trade, which are available from the 1987 benchmark survey. Table 6-6 presents two summary measures of the geographic pattern of exports and imports for U.S. affiliates of the seven major investing countries. The first measure is an index of the geographic diversification of affiliate ex-

ports and imports across all countries of destination or origin. The index is one that has been used in studies of industrial organization to measure industrial diversification within large corporations. As used here, the index reflects both the number of countries with which the affiliates of a given country engage in trade and the degree of equality among the merchandise trade shares of the different countries; it may range from 0 to 1, and the higher its value, the more geographically diversified are the exports or imports of a country's affiliates (see footnote to Table 6-6). The second measure is the share of affiliate trade with the country of UBO.

In 1987, exports by Japanese-owned affiliates were the least geographically diversified; their diversification index is only 0.399, reflecting the fact that more than three-fourths of their exports were shipped to Japan. In contrast, the diversification index for the exports of affiliates of each of the other six countries is higher than 0.850, partly reflecting the fact that the share of exports shipped to any one country was less than one-third.

Exports to the country of UBO accounted for the largest share of exports by affiliates of all of the major investing countries except France and the Netherlands. For Netherlands-owned affiliates, the share of exports shipped to the Netherlands (20 percent) was slightly lower than the share shipped to the United Kingdom (22 percent). For French-owned affiliates, the share of exports shipped to France (only 6 percent) was much lower than the shares shipped to Japan (17 percent) and to the Soviet Union. The data by country of destination cannot be cross-classified by product; however, it is likely that some, perhaps most, of the exports to Japan and the Soviet Union represented shipments of grain. Both countries were large grain importers, and, as noted earlier, most of the exports by French-owned affiliates consisted of food products shipped by wholesale traders specializing in grain.

Imports were considerably less geographically diversified than exports for affiliates of most of the major investing countries. Imports by Japanese-owned affiliates were the least diversified, with an index of 0.132; more than 90 percent of these imports originated in Japan. Imports from the country of UBO also accounted for the largest share of imports by affiliates of the other six countries; they accounted for a majority share of the imports by affiliates with UBO's in Germany, Canada, and France. The geographic pattern of affiliate imports was most diversified for Netherlands-owned affiliates: The share of imports received from the Netherlands was only 17 percent (which was still a higher share than that received from any other country). Petroleum, a relatively homogeneous commodity that can easily be imported from a number of different countries, accounted for a large share of the imports by Netherlands-owned affiliates. Almost one-third of their imports were from member nations of the Organization

of Petroleum Exporting Countries.

Table 6-7 shows the U.S.-affiliate share of total trade between the United States and each of the seven major investing countries in 1987. It indicates the share of U.S. trade with each country that was accounted for by the country's U.S. affiliates, by other countries' U.S. affiliates, and by other U.S. companies. The addenda show, for comparison, the share of U.S. trade with each country that was accounted for by U.S.-owned affiliates located in that country.

Japanese-owned affiliates accounted for a dominant share of both U.S. exports to, and U.S. imports from, Japan--their country of ultimate ownership: These affiliates handled 56 percent of all U.S. exports to Japan and 80 percent of all U.S. imports from Japan. In contrast, for each of the other six countries, less than 10 percent of total U.S. exports to the country were shipped by U.S. affiliates with UBO's in that country; the corresponding shares for imports ranged from 52 percent for Germany to 8 percent for Canada.

For each of the major investing countries except Japan, more than 25 percent of total U.S. exports to the country consisted of shipments to the country's U.S.-owned affiliates, compared with a share of less than 10 percent shipped by U.S. affiliates with UBO's in the country. The share of U.S. exports to Canada accounted for by Canadian affiliates of U.S. companies was particularly large, at 57 percent. In contrast, the share of U.S. exports to Japan accounted for by Japanese affiliates of U.S. companies was only 17 percent.

Intrafirm Merchandise Trade

Much of the merchandise trade of U.S. affiliates of foreign companies, particularly on the import side, is intrafirm trade between U.S. affiliates and their foreign parent groups. In 1987-91, intrafirm trade accounted for about 40 percent of the exports and 75 percent of the imports of all U.S. affiliates.

By industry, intrafirm trade has accounted for a particularly large share of the trade by wholesale trade affiliates. In 1991, the share of exports by wholesale trade affiliates that was shipped to their foreign parent groups was 55 percent, compared with shares of 26 percent for manufacturing affiliates and 39 percent for affiliates in "other industries." The share of imports that was shipped from their foreign parent groups was 79 percent for wholesale trade affiliates, 71 percent for manufacturing affiliates, and 55 percent for affiliates in "other industries."

Among affiliates of the major investing countries, Japanese-owned affiliates have shipped a majority of their exports to their foreign parent groups in every year since 1977 (Table 6-8). In 1991, the share of exports by these affiliates that was shipped to their foreign parent groups was 59 percent. Most of these intrafirm exports

were by wholesale trade affiliates of Japanese trading companies. Netherlands-owned affiliates had the second largest intrafirm export share, at 40 percent.

For nearly all of the major investing countries, the share of imports received by affiliates from their foreign parent groups has consistently been higher than the share of exports shipped by affiliates to their foreign parent groups; the sole exception is intrafirm trade by Netherlands-owned affiliates prior to 1989. The shares of imports from foreign parent groups have been especially large for Japanese- and German-owned affiliates (more than 80 percent in most years). These sizable shares reflect the dominant role of wholesale trade affiliates as domestic distributors for their foreign parent companies. Imports from foreign parent groups also constituted a large share of total imports by Canadian-owned, French-owned, and Swiss-owned affiliates.

Trade between a U.S. affiliate and its foreign parent group need not be with the country of the affiliate's UBO, because the foreign parent group may include companies located in other countries. According to data from the 1987 benchmark survey, less than one-half of exports by French-, Netherlands-, Swiss-, and British-owned affiliates to their foreign parent groups were shipped to the UBO's country. In contrast, the share of exports to foreign parent groups that was shipped to the UBO's country was 94 percent for Japanese-owned affiliates, 90 percent for Canadian-owned affiliates, and 68 percent for German-owned affiliates.

U.S.-affiliate imports from their foreign parent groups show a greater tendency to be from the country of UBO. For U.S. affiliates of each of the seven major investing countries except the Netherlands, a majority of the 1987 imports from foreign parent groups were from the UBO's country. For Japanese-, Canadian-, and German-owned affiliates, more than 90 percent of the imports from their foreign parent groups were from the UBO's country.

Import Content of Inputs Purchased by Affiliates

In this section, the data on U.S.-affiliate imports are used in conjunction with other data from BEA surveys on foreign direct investment in the United States to examine the degree to which U.S. affiliates draw on foreign, rather than domestic, sources for the inputs used in their production. The primary measure employed is the share of imports in total intermediate inputs purchased by U.S. affiliates, with intermediate inputs being computed as the difference between total output (sales plus inventory change) and gross product (value added in production).¹¹ Alternatively, one could look at the domestic content of affiliates' purchased inputs--one minus the import-content share--which shows the share of affiliates' purchased inputs ac-

counted for by their purchases from other U.S. companies. A broader measure of domestic content--the domestic content of total output--takes account of both affiliates' purchases of intermediate inputs from other U.S. companies and their employment of labor and other primary factors of production; it is measured as the share of total output accounted for by affiliates' domestic purchases and gross product combined.

In 1991, the import content of purchased inputs for all U.S. affiliates was 20 percent, and the domestic content was 80 percent (Table 6-9). For manufacturing affiliates, 17 percent of the content was accounted for by imports, and 83 percent by domestic content. The domestic content of total output was 85 percent for all affiliates and 88 percent for manufacturing affiliates. Although U.S. affiliates' reliance on imported goods appears to be somewhat higher than that of domestic firms, U.S. affiliates' output nonetheless largely represents production in the United States by U.S. labor and other domestic inputs. Because the focus of this chapter is on trade, the remainder of this section focuses on the import content of purchased inputs.

Table 6-9 shows the import-content shares for U.S. affiliates by broad industry of affiliate in 1987-91. Shown for comparison, as a proxy for the import-content share of domestically owned U.S. businesses, is the import-content share of U.S. parent companies of foreign affiliates in 1989.¹²

In 1989, the share of imports in purchased inputs for U.S. affiliates (20 percent) was about twice as large as the share for U.S. parent companies (9 percent). This difference partly reflects industry mix--in particular, the fact that companies in wholesale trade, which had the highest import share among the major industry divisions, accounted for 40 percent of total U.S.-affiliate purchases but for only 10 percent of total U.S.-parent-company purchases. It also reflects the higher import-content shares of U.S. affiliates relative to U.S. parent companies in some industries, particularly wholesale trade, petroleum, and manufacturing.

¹¹ This measure captures direct (or first-round) imports only; it excludes imports embodied in purchases from domestic distributors and manufacturers. It also excludes any purchases of services from foreigners because the data for imports are for merchandise imports only. It should be noted that a small upward bias in the measure may exist to the extent that the numerator of the ratio includes imports of capital equipment for use in affiliate production, which--not being an intermediate input embodied in total output--is excluded from the denominator. For most U.S. affiliates, however, it is likely that only a negligible share of their total imports consisted of capital equipment.

¹² The share is computed from data from BEA's 1989 benchmark survey of U.S. direct investment abroad. In the absence of industry-level data on imported inputs by all U.S. businesses, the import-content share for U.S. parent companies is the best available measure for domestically owned U.S. businesses. In the petroleum and manufacturing industries, in which U.S. parent companies have accounted for a dominant share of total industry gross product, the shares for U.S. parent companies can be taken to be representative of that for large domestically owned businesses in general.

The import-content shares for U.S. affiliates and U.S. parent companies in wholesale trade were 35 percent and 17 percent, respectively.¹³ The comparable shares in petroleum were 20 percent and 11 percent.

In manufacturing, the difference between the import-content shares for U.S. affiliates and U.S. parent companies was more modest (16 percent, compared with 11 percent). In all manufacturing industries shown in Table 6-9, the import-content share for U.S. affiliates was higher than that for U.S. parent companies; it was more than twice as high in three industries--food and kindred products, electric and electronic equipment, and transportation equipment.

For total manufacturing and for each of the industries within manufacturing shown in Table 6-9, the import-content share for affiliates changed little in 1987-91. This result does not necessarily refute the proposition that foreign-owned manufacturers tend to purchase more of their inputs from domestic sources as they mature: Because there was substantial new direct investment in U.S. manufacturing industries in 1987-90, the average age of U.S. manufacturing affiliates may not have increased during this period.

The import-content share for U.S. affiliates in all industries shows a modest decline in 1987-90 because of a drop in the share for affiliates in wholesale trade. The drop for wholesale trade affiliates, which mirrors the drop in their import/export ratio shown in Table 6-2, can be attributed mainly to a reduction in U.S. consumer demand for imports following the decline of the dollar in foreign exchange markets in the late 1980's.

Table 6-10 presents import-content shares in more detail by industry for all affiliates and for affiliates of each of the seven major investing countries. Within manufacturing, imports generally have constituted a large share of the affiliate purchases in the machinery and transportation equipment industries--industries in

which purchased inputs consist mainly of manufactured components rather than raw materials. In contrast, the share was quite low for affiliates in industries that intensively use raw materials subject to high transportation costs. Such industries include beverages; primary ferrous metals; lumber, wood, furniture, and fixtures; and stone, clay, and glass products.

The shares shown in Table 6-10 are supplemented by frequency distributions for each of the seven major investing countries in Table 6-11; the frequency distributions show the number of manufacturing industries that appear in each of six size ranges for the affiliates' import-content share. The distributions in the upper portion of the table are across the 26 most detailed manufacturing industries shown in Table 6-10. The lower portion of the table shows distributions across the eight industries in machinery, transportation equipment, and instruments--industries characterized by high shares of manufactured components in total purchased inputs.

Among affiliates of the major investing countries, Japanese-owned affiliates had high import-content shares in the largest number of industries. In 1991, the share for Japanese-owned affiliates exceeded 30 percent in 7 of the 26 industries. It was 50 percent or more in computer and office equipment; audio, video, and communications equipment; and motor vehicles and equipment. For motor vehicles and equipment, the share was somewhat lower in 1991--53 percent--than it had been in earlier years--56 percent in 1989 and 63 percent in 1988.

Affiliates of the other major investing countries show high import-content shares in relatively few industries. The share was less than 10 percent in more than one-half of the industries with direct investment activity for affiliates with UBO's in Canada, the Netherlands, and the United Kingdom. For Canadian- and British-owned affiliates, the share was less than 20 percent in most of the eight industries in machinery, transportation equipment, and instruments, indicating a tendency by these affiliates to purchase manufactured components from domestic rather than foreign suppliers.

¹³ The share for wholesale trade affiliates is only 35 percent because this group includes some wholesale trade affiliates (such as the French-owned grain traders and the affiliates of Japanese trading companies) that export considerably more than they import. As a result, the share of imports in purchases for the industry as a whole is much lower than that for many individual affiliates.

Table 6-1.—Total U.S. Merchandise Trade and Merchandise Trade of U.S. Affiliates of Foreign Companies, 1977-91

	U.S. exports			U.S. imports			Balance			Ratio of imports to exports		
	All U.S. businesses	U.S. affiliates	Other U.S. businesses	All U.S. businesses	U.S. affiliates	Other U.S. businesses	All U.S. businesses	U.S. affiliates	Other U.S. businesses	All U.S. businesses	U.S. affiliates	Other U.S. businesses
Millions of dollars												
1977	123,182	24,858	98,324	151,534	43,896	107,638	-28,352	-19,038	-9,314	1.23	1.77	1.09
1978	145,847	32,169	113,678	176,052	56,567	119,485	-30,205	-24,398	-5,807	1.21	1.76	1.05
1979	186,363	44,341	142,022	210,285	63,039	147,246	-23,922	-18,698	-5,224	1.13	1.42	1.04
1980	225,566	52,199	173,367	245,262	75,803	169,459	-19,696	-23,604	3,908	1.09	1.45	.98
1981	238,715	64,066	174,649	260,982	82,259	178,723	-22,267	-18,193	-4,074	1.09	1.28	1.02
1982	216,442	60,236	156,206	243,952	84,290	159,662	-27,510	-24,054	-3,456	1.13	1.40	1.02
1983	205,639	53,854	151,785	258,048	81,464	176,584	-52,409	-27,610	-24,799	1.25	1.51	1.16
1984	223,976	58,186	165,790	330,678	100,489	230,189	-106,702	-42,303	-64,399	1.48	1.73	1.39
1985	218,815	56,401	162,414	336,526	113,331	223,195	-117,711	-56,930	-60,781	1.54	2.01	1.37
1986	227,159	49,560	177,599	365,438	125,732	239,706	-138,279	-76,172	-62,107	1.61	2.54	1.35
1987	254,122	48,091	206,031	406,241	143,537	262,704	-152,119	-95,446	-56,673	1.60	2.98	1.28
1988	322,426	69,541	252,885	440,952	155,533	285,419	-118,526	-85,992	-32,534	1.37	2.24	1.13
1989	363,812	86,316	277,496	473,211	171,847	301,364	-109,399	-85,531	-23,868	1.30	1.99	1.09
1990	393,592	92,308	301,284	495,311	182,936	312,375	-101,719	-90,628	-11,091	1.26	1.98	1.04
1991 ^P	421,730	98,369	323,361	487,129	179,694	307,435	-65,399	-81,325	15,926	1.16	1.83	.95
Percent of all U.S. businesses												
1977	100.0	20.2	79.8	100.0	29.0	71.0	100.0	67.1	32.9	.....	.....	.....
1978	100.0	22.1	77.9	100.0	32.1	67.9	100.0	80.8	19.2	.....	.....	.....
1979	100.0	23.8	76.2	100.0	30.0	70.0	100.0	78.2	21.8	.....	.....	.....
1980	100.0	23.1	76.9	100.0	30.9	69.1	100.0	119.8	-19.8	.....	.....	.....
1981	100.0	26.8	73.2	100.0	31.5	68.5	100.0	81.7	18.3	.....	.....	.....
1982	100.0	27.8	72.2	100.0	34.6	65.4	100.0	87.4	12.6	.....	.....	.....
1983	100.0	26.2	73.8	100.0	31.6	68.4	100.0	52.7	47.3	.....	.....	.....
1984	100.0	26.0	74.0	100.0	30.4	69.6	100.0	39.6	60.4	.....	.....	.....
1985	100.0	25.8	74.2	100.0	33.7	66.3	100.0	48.4	51.6	.....	.....	.....
1986	100.0	21.8	78.2	100.0	34.4	65.6	100.0	55.1	44.9	.....	.....	.....
1987	100.0	18.9	81.1	100.0	35.3	64.7	100.0	62.7	37.3	.....	.....	.....
1988	100.0	21.6	78.4	100.0	35.3	64.7	100.0	72.6	27.4	.....	.....	.....
1989	100.0	23.7	76.3	100.0	36.3	63.7	100.0	78.2	21.8	.....	.....	.....
1990	100.0	23.5	76.5	100.0	36.9	63.1	100.0	89.1	10.9	.....	.....	.....
1991 ^P	100.0	23.3	76.7	100.0	36.9	63.1	100.0	124.4	-24.4	.....	.....	.....

^P Preliminary.

NOTE.—The data on U.S. merchandise exports and imports by all U.S. businesses are from the Census Bureau. The merchandise trade figures for other U.S. businesses were derived through subtraction. The figures shown for all U.S. businesses differ somewhat from the Census-basis figures reported in table 2A of "U.S. International Transactions, First Quarter 1993," SURVEY

OF CURRENT BUSINESS 73 (June 1993): 76. For exports, the major reason for the difference is that the June Survey figures do not include undocumented data on U.S. exports to Canada, which are included in the figures shown in this table. For both exports and imports, an additional reason for the difference is rounding at the commodity level.

Table 6-2.—Merchandise Trade of U.S. Affiliates of Foreign Companies, by Major Industry of Affiliate, 1977-91

	Exports shipped by U.S. affiliates				Imports shipped to U.S. affiliates				Balance				Ratio of imports to exports			
	All industries	Manu- facturing	Whole- sale trade	Other industries	All industries	Manu- facturing	Whole- sale trade	Other industries	All industries	Manu- facturing	Whole- sale trade	Other industries	All industries	Manu- facturing	Whole- sale trade	Other industries
Millions of dollars																
1977	24,858	3,557	19,983	1,318	43,896	5,624	31,369	6,903	-19,038	-2,067	-11,386	-5,585	1.77	1.58	1.57	5.24
1978	32,169	4,521	25,898	1,750	56,567	7,193	42,733	6,641	-24,398	-2,672	-16,835	-4,891	1.76	1.59	1.65	3.79
1979	44,341	6,548	35,600	2,193	63,039	8,668	45,621	8,750	-18,698	-2,120	-10,021	-6,557	1.42	1.32	1.28	3.99
1980	52,199	9,048	40,713	2,438	75,803	10,413	54,020	11,370	-23,604	-1,365	-13,307	-8,932	1.45	1.15	1.33	4.66
1981	64,066	13,590	46,487	3,989	82,259	13,226	57,908	11,125	-18,193	364	-11,421	-7,136	1.28	.97	1.25	2.79
1982	60,236	12,883	43,336	4,017	84,290	12,386	61,679	10,225	-24,054	497	-18,343	-6,208	1.40	.96	1.42	2.55
1983	53,854	12,045	38,454	3,355	81,464	14,021	59,048	8,395	-27,610	-1,976	-20,594	-5,040	1.51	1.16	1.54	2.50
1984	58,186	13,078	40,539	4,569	100,489	18,172	72,478	9,839	-42,303	-5,094	-31,939	-5,270	1.73	1.39	1.79	2.15
1985	56,401	12,849	38,257	5,295	113,331	18,635	84,568	10,128	-56,930	-5,786	-46,311	-4,833	2.01	1.45	2.21	1.91
1986	49,560	12,805	33,727	3,028	125,732	20,617	94,517	10,598	-76,172	-7,812	-60,790	-7,570	2.54	1.61	2.80	3.50
1987	48,091	15,487	29,165	3,439	143,537	24,546	107,278	11,713	-95,446	-9,059	-78,113	-8,274	2.98	1.58	3.68	3.41
1988	69,541	25,192	40,035	4,314	155,533	32,762	111,481	11,290	-85,992	-7,570	-71,446	-6,976	2.24	1.30	2.78	2.62
1989	86,316	31,873	49,096	5,347	171,847	40,871	114,049	16,927	-85,531	-8,998	-64,953	-11,580	1.99	1.28	2.32	3.17
1990	92,308	36,069	49,925	6,314	182,936	47,171	113,639	22,126	-90,628	-11,102	-63,714	-15,812	1.98	1.31	2.28	3.50
1991 ^P	98,369	39,432	51,995	6,942	179,694	47,983	112,064	19,647	-81,325	-8,551	-60,069	-12,705	1.83	1.22	2.16	2.83
Percent of all-industries total																
1977	100.0	14.3	80.4	5.3	100.0	12.8	71.5	15.7	100.0	10.9	59.8	29.3	.....	.....	.....	.....
1978	100.0	14.1	80.5	5.4	100.0	12.7	75.5	11.7	100.0	11.0	69.0	20.0	.....	.....	.....	.....
1979	100.0	14.8	80.3	4.9	100.0	13.8	72.4	13.9	100.0	11.3	53.6	35.1	.....	.....	.....	.....
1980	100.0	17.3	78.0	4.7	100.0	13.7	71.3	15.0	100.0	5.8	56.4	37.8	.....	.....	.....	.....
1981	100.0	21.2	72.6	6.2	100.0	16.1	70.4	13.5	100.0	-2.0	62.8	39.2	.....	.....	.....	.....
1982	100.0	21.4	71.9	6.7	100.0	14.7	73.2	12.1	100.0	-2.1	76.3	25.8	.....	.....	.....	.....
1983	100.0	22.4	71.4	6.2	100.0	17.2	72.5	10.3	100.0	7.2	74.6	18.3	.....	.....	.....	.....
1984	100.0	22.5	69.7	7.9	100.0	18.1	72.1	9.8	100.0	12.0	75.5	12.5	.....	.....	.....	.....
1985	100.0	22.8	67.8	9.4	100.0	16.4	74.6	8.9	100.0	10.2	81.3	8.5	.....	.....	.....	.....
1986	100.0	25.8	68.1	6.1	100.0	16.4	75.2	8.4	100.0	10.3	79.8	9.9	.....	.....	.....	.....
1987	100.0	32.2	60.6	7.2	100.0	17.1	74.7	8.2	100.0	9.5	81.8	8.7	.....	.....	.....	.....
1988	100.0	36.2	57.6	6.2	100.0	21.1	71.7	7.3	100.0	8.8	83.1	8.1	.....	.....	.....	.....
1989	100.0	36.9	56.9	6.2	100.0	23.8	66.4	9.9	100.0	10.5	75.9	13.5	.....	.....	.....	.....
1990	100.0	39.1	54.1	6.8	100.0	25.8	62.1	12.1	100.0	12.3	70.3	17.4	.....	.....	.....	.....
1991 ^P	100.0	40.1	52.9	7.1	100.0	26.7	62.4	10.9	100.0	10.5	73.9	15.6	.....	.....	.....	.....

^P Preliminary.

Table 6-3.—Merchandise Trade of All U.S. Affiliates and of U.S. Affiliates in Manufacturing, by Country of UBO, 1977-91

	Affiliate exports by country of UBO										Affiliate imports by country of UBO									
	All countries	Canada	France	Germany ¹	Japan	Netherlands	Switzerland	United Kingdom	Other countries	All countries	Canada	France	Germany ¹	Japan	Netherlands	Switzerland	United Kingdom	Other countries		
Millions of dollars																				
Affiliates in all Industries:																				
1977	24,858	854	6,396	682	10,396	827	2,117	1,575	2,011	43,896	3,853	3,271	2,883	16,313	4,464	1,685	5,447	5,980		
1978	32,169	1,325	7,618	1,107	13,820	1,016	2,557	2,031	2,695	56,567	4,664	2,423	5,572	22,963	4,160	2,289	5,897	8,599		
1979	44,341	1,763	11,222	2,893	17,347	1,364	3,320	2,252	4,180	63,039	5,194	2,605	6,915	25,370	4,933	2,854	7,312	7,856		
1980	52,199	1,792	10,209	3,328	19,136	1,934	3,055	3,196	9,549	75,803	5,553	3,749	7,519	27,653	6,436	2,542	8,499	13,852		
1981	64,066	4,526	11,832	5,305	22,659	2,319	3,769	3,682	9,972	82,259	8,223	4,359	8,667	33,285	5,427	2,303	8,814	11,181		
1982	60,236	4,162	12,947	4,578	21,514	2,182	3,370	3,756	7,727	84,290	6,071	3,886	8,314	35,901	5,332	1,932	8,203	14,651		
1983	53,854	4,290	9,253	2,684	22,816	1,532	3,053	3,291	6,935	81,464	5,995	3,575	8,722	36,568	4,309	2,125	7,961	12,209		
1984	58,186	4,505	11,673	2,993	23,764	1,594	3,296	3,197	7,164	100,489	7,208	4,024	12,132	47,824	4,375	2,626	8,439	13,861		
1985	56,401	4,172	11,169	3,170	22,715	1,658	2,847	3,038	7,632	113,331	6,939	3,921	12,701	58,102	4,540	2,897	9,551	14,680		
1986	49,560	4,372	9,565	2,588	21,260	1,272	2,329	3,042	5,132	125,732	7,139	4,391	14,359	63,802	3,608	3,472	10,119	18,842		
1987	48,091	4,963	5,422	3,636	20,413	1,485	1,937	3,735	6,500	143,537	8,033	4,330	17,264	72,564	4,268	4,269	10,622	22,187		
1988	69,541	5,858	11,026	5,497	26,400	2,752	2,941	4,729	10,338	155,533	9,298	7,032	16,082	77,688	4,951	5,210	11,461	23,811		
1989	86,316	6,020	13,598	6,088	34,076	2,379	4,236	6,930	12,989	171,847	10,596	7,873	16,961	84,511	6,292	4,832	12,715	28,067		
1990	92,308	6,162	11,748	6,383	39,293	2,739	5,070	8,046	12,867	182,936	10,993	8,239	18,417	87,475	6,612	4,965	13,388	32,847		
1991 ^P	98,369	6,402	11,636	7,292	41,212	3,215	5,637	8,405	14,570	179,694	10,383	7,516	17,360	89,675	6,326	4,822	12,189	31,423		
Manufacturing affiliates:																				
1977	3,557	533	(^D)	377	325	311	(^D)	815	453	5,624	1,729	599	641	281	423	395	829	727		
1978	4,521	731	(^D)	754	442	(^D)	(^D)	910	519	7,193	2,330	836	916	411	482	493	918	807		
1979	6,548	961	(^D)	1,247	713	527	(^D)	1,132	699	8,668	2,383	720	1,334	562	(^D)	987	(^D)	1,013		
1980	9,048	999	1,447	1,520	761	637	700	1,628	1,356	10,413	2,809	1,446	1,670	642	556	769	1,461	1,060		
1981	13,590	3,725	1,656	1,675	1,153	821	533	1,908	2,119	13,226	4,020	1,590	1,775	894	725	763	1,763	1,696		
1982	12,883	3,308	(^D)	1,705	991	803	(^D)	1,927	2,073	12,386	2,952	1,958	1,795	997	860	626	1,843	1,355		
1983	12,045	3,385	(^D)	1,555	957	529	(^D)	1,792	2,046	14,021	3,071	1,838	2,289	1,197	884	719	1,861	2,162		
1984	13,078	3,682	(^D)	1,761	948	656	(^D)	1,833	2,273	18,172	3,982	2,034	3,329	1,739	1,193	938	2,377	2,580		
1985	12,849	3,367	(^D)	1,808	850	465	619	2,078	(^D)	18,635	3,701	1,654	3,577	2,365	1,179	1,096	2,496	2,587		
1986	12,805	3,511	1,220	1,818	911	572	724	2,009	2,040	20,617	3,691	1,932	3,830	2,751	1,556	1,292	2,759	2,806		
1987	15,487	4,042	937	2,798	1,126	707	770	2,631	2,476	24,546	4,274	1,773	4,312	4,195	1,443	1,632	3,339	3,578		
1988	25,192	4,807	4,136	4,480	2,033	1,696	1,068	3,456	3,516	32,762	4,625	4,036	5,325	5,887	2,324	2,230	4,457	3,878		
1989	31,873	4,854	4,918	5,145	4,146	1,481	1,967	4,895	4,467	40,871	5,759	4,112	5,965	10,063	2,522	2,268	5,061	5,121		
1990	36,069	5,401	5,278	5,260	5,295	1,423	2,819	5,719	4,874	47,171	5,794	4,887	6,693	14,056	2,580	2,370	5,144	5,647		
1991 ^P	39,432	5,504	5,568	5,830	6,085	1,759	3,235	6,194	5,257	47,983	5,825	4,078	6,692	13,933	2,509	2,696	5,325	6,925		
Percent of all-countries total																				
Affiliates in all Industries:																				
1977	100.0	3.4	25.7	2.7	41.8	3.3	8.5	6.3	8.1	100.0	8.8	7.5	6.6	37.2	10.2	3.8	12.4	13.6		
1978	100.0	4.1	23.7	3.4	43.0	3.2	7.9	6.3	8.4	100.0	8.2	4.3	9.9	40.6	7.4	4.0	10.4	15.2		
1979	100.0	4.0	25.3	6.5	39.1	3.1	7.5	5.1	9.4	100.0	8.2	4.1	11.0	40.2	7.8	4.5	11.6	12.5		
1980	100.0	3.4	19.6	6.4	36.7	3.7	5.9	6.1	18.3	100.0	7.3	4.9	9.9	36.5	8.5	3.4	11.2	18.3		
1981	100.0	7.1	18.5	8.3	35.4	3.6	5.9	5.7	15.6	100.0	10.0	5.3	10.5	40.5	6.6	2.8	10.7	13.6		
1982	100.0	6.9	21.5	7.6	35.7	3.6	5.6	6.2	12.8	100.0	7.2	4.6	9.9	42.6	6.3	2.3	9.7	17.4		
1983	100.0	8.0	17.2	5.0	42.4	2.8	5.7	6.1	12.9	100.0	7.4	4.4	10.7	44.9	5.3	2.6	9.8	15.0		
1984	100.0	7.7	20.1	5.1	40.8	2.7	5.7	5.5	12.3	100.0	7.2	4.0	12.1	47.6	4.4	2.6	8.4	13.8		
1985	100.0	7.4	19.8	5.6	40.3	2.9	5.0	5.4	13.5	100.0	6.1	3.5	11.2	51.3	4.0	2.6	8.4	13.0		
1986	100.0	8.8	19.3	5.2	42.9	2.6	4.7	6.1	10.4	100.0	5.7	3.5	11.4	50.7	2.9	2.8	8.0	15.0		
1987	100.0	10.3	11.3	7.6	42.4	3.1	4.0	7.8	13.5	100.0	5.6	3.0	12.0	50.6	3.0	3.0	7.4	15.5		
1988	100.0	8.4	15.9	7.9	38.0	4.0	4.2	6.8	14.9	100.0	6.0	4.5	10.3	49.9	3.2	3.3	7.4	15.3		
1989	100.0	7.0	15.8	7.1	39.5	2.8	4.9	8.0	15.0	100.0	6.2	4.6	9.9	49.2	3.7	2.8	7.4	16.3		
1990	100.0	6.7	12.7	6.9	42.6	3.0	5.5	8.7	13.9	100.0	6.0	4.5	10.1	47.8	3.6	2.7	7.3	18.0		
1991 ^P	100.0	6.5	11.8	7.4	41.9	3.3	5.7	8.5	14.8	100.0	5.8	4.2	9.7	49.9	3.5	2.7	6.8	17.5		
Manufacturing affiliates:																				
1977	100.0	15.0	(^D)	10.6	9.1	8.7	(^D)	22.9	12.7	100.0	30.7	10.7	11.4	5.0	7.5	7.0	14.7	12.9		
1978	100.0	16.2	(^D)	16.7	9.8	(^D)	(^D)	20.1	11.5	100.0	32.4	11.6	12.7	5.7	6.7	6.9	12.8	11.2		
1979	100.0	14.7	(^D)	19.0	10.9	8.0	(^D)	17.3	10.7	100.0	27.5	8.3	15.4	6.5	(^D)	11.4	(^D)	11.7		
1980	100.0	11.0	16.0	16.8	8.4	7.0	7.7	18.0	15.0	100.0	27.0	13.9	16.0	6.2	5.3	7.4	14.0	10.2		
1981	100.0	27.4	12.2	12.3	8.5	6.0	3.9	14.0	15.6	100.0	30.4	12.0	13.4	6.8	5.5	5.8	13.3	12.8		
1982	100.0	25.7	(^D)	13.2	7.7	6.2	(^D)	15.0	16.1	100.0	23.8	15.8	14.5	8.0	6.9	5.1	14.9	10.9		
1983	100.0	28.1	(^D)	12.9	7.9	4.4	(^D)	14.9	17.0	100.0	21.9	13.1	16.3	8.5	6.3	5.1	13.3	15.4		
1984	100.0	28.2	(^D)	13.5	7.2	5.0	(^D)	14.0	17.4	100.0	21.9	11.2	18.3	9.6	6.6	5.2	13.1	14.2		
1985	100.0	26.2	(^D)	14.1	6.6	3.6	4.8	16.2	(^D)	100.0	19.9	8.9	19.2	12.7	6.3	5.9	13.4	13.8		
1986	100.0	27.4	9.5	14.2	7.1	4.5	5.7	15.7	15.9	100.0	17.9	9.4	18.6	13.3	7.5	6.3	13.4	13.6		
1987	100.0	26.1	6.1	18.1	7.3	4.6	5.0	17.0	16.0	100.0	17.4	7.2	17.6	17.1	5.9	6.6	13.6	14.6		
1988	100.0	19.1	16.4	17.8	8.1	6.7	4.2	13.7	14.0	100.0	14.1	12.3	16.3	18.0	7.1	6.8	13.6	11.8		
1989	100.0	15.2	15.4	16.1	13.0	4.6	6.2	15.4	14.0	100.0	14.1	10.1	14.6	24.6	6.2	5.5	12.4	12.5		
1990	100.0	15.0																		

Table 6-4.— Merchandise Trade of U.S. Affiliates, by Major Industry of Affiliate and Country of UBO, 1990 and 1991

[Millions of dollars]

	All countries		Canada		France		Germany		Japan		Netherlands		Switzerland		United Kingdom		Other countries	
	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P
Exports shipped by U.S. affiliates:																		
All industries	92,308	98,369	6,162	6,402	11,748	11,636	6,383	7,292	39,293	41,212	2,739	3,215	5,070	5,637	8,046	8,405	12,867	14,570
Manufacturing	36,069	39,432	5,401	5,504	5,278	5,568	5,260	5,830	5,295	6,085	1,423	1,759	2,819	3,235	5,719	6,194	4,874	5,257
Wholesale trade	49,925	51,995	407	551	(^D)	(^D)	881	939	33,687	34,760	481	467	1,629	1,546	1,063	1,205	(^D)	(^D)
Other	6,314	6,942	354	347	(^D)	(^D)	242	523	311	367	835	989	622	856	1,264	1,006	(^D)	(^D)
Imports shipped to U.S. affiliates:																		
All industries	182,936	179,694	10,993	10,383	8,239	7,516	18,417	17,360	87,475	89,675	6,612	6,326	4,965	4,822	13,388	12,189	32,847	31,423
Manufacturing	47,171	47,983	5,794	5,825	4,887	4,078	6,693	6,692	14,056	13,933	2,580	2,509	2,370	2,696	5,144	5,325	5,647	6,925
Wholesale trade	113,639	112,064	3,594	2,871	2,948	3,059	11,005	9,860	73,141	75,426	1,041	1,045	1,368	1,269	5,277	3,970	15,265	14,564
Other	22,126	19,647	1,605	1,687	404	379	719	808	278	316	2,991	2,772	1,227	857	2,967	2,894	11,935	9,934
Ratio of imports to exports:																		
All industries	1.98	1.83	1.78	1.62	.70	.65	2.89	2.38	2.23	2.18	2.41	1.97	.98	.86	1.66	1.45	2.55	2.16
Manufacturing	1.31	1.22	1.07	1.06	.93	.73	1.27	1.15	2.65	2.29	1.81	1.43	.84	.83	.90	.86	1.16	1.32
Wholesale trade	2.28	2.16	8.83	5.21	(^D)	(^D)	12.49	10.50	2.17	2.17	2.16	2.24	.84	.82	4.96	3.29	(^D)	(^D)
Other	3.50	2.83	4.53	4.86	(^D)	(^D)	2.97	1.54	.89	.86	3.58	2.80	1.97	1.00	2.35	2.88	(^D)	(^D)

^P Preliminary.^D Suppressed to avoid disclosure of data of individual companies.

UBO Ultimate beneficial owner

Table 6-5.—Total U.S. Merchandise Trade and Merchandise Trade of U.S. Affiliates, by Product and by Country of UBO, 1987

[Millions of dollars]

	All U.S. businesses	U.S. affiliates by country of UBO									Other U.S. businesses	
		All countries	Canada	France	Germany, Federal Republic of	Japan	Netherlands	Switzerland	United Kingdom	Other countries		
Exports	Total	243,859	48,091	4,963	5,422	3,636	20,413	1,485	1,937	3,735	6,500	195,768
	Food	19,179	9,835	82	(D)	28	4,617	54	613	408	(D)	9,344
	Beverages and tobacco	3,667	869	(D)	4	3	(D)	(D)	(D)	(D)	233	2,798
	Crude materials	20,416	6,103	222	(D)	98	3,521	(D)	411	188	821	14,313
	Petroleum and products	4,283	2,564	57	5	(D)	(D)	6	(D)	(D)	122	1,719
	Coal and coke	3,430	1,327	514	1	225	(D)	(D)	0	(D)	118	2,103
	Chemicals	26,381	8,055	(D)	332	1,409	1,670	526	431	771	(D)	18,326
	Machinery	69,637	7,465	430	394	1,010	2,736	(D)	111	770	(D)	62,172
	Road vehicles and parts	21,004	793	18	(D)	181	163	1	2	76	(D)	20,211
	Other transport equipment ..	17,955	775	(D)	(D)	79	(D)	0	0	64	78	17,180
	Metal manufactures	6,896	3,412	292	194	94	2,401	11	21	59	340	3,484
	Other	51,012	6,895	1,278	338	(D)	(D)	68	(D)	883	1,403	44,117
	Imports											
	Total	405,900	143,537	8,033	4,330	17,264	72,564	4,268	4,269	10,622	22,187	282,363
Food	20,547	6,400	475	226	204	1,054	8	294	2,036	2,103	14,147	
Beverages and tobacco	4,105	1,739	400	(D)	1	(D)	(D)	(D)	748	141	2,366	
Crude materials	11,526	4,193	548	(D)	110	1,472	182	(D)	298	1,252	7,333	
Petroleum and products	44,033	10,915	1,476	(D)	(D)	1,031	(D)	(D)	(D)	3,292	33,118	
Coal and coke	186	23	2	0	(D)	2	0	(D)	0	2	163	
Chemicals	16,213	7,112	392	460	1,601	1,687	218	821	1,132	801	9,101	
Machinery	99,433	35,790	858	451	2,555	25,619	1,395	990	875	3,047	63,643	
Road vehicles and parts	72,709	47,416	8	(D)	9,314	31,446	3	5	300	(D)	25,293	
Other transport equipment ..	5,667	1,544	82	(D)	148	588	(D)	0	(D)	42	4,123	
Metal manufactures	25,144	10,662	1,894	492	1,304	4,237	14	127	490	2,104	14,482	
Other	106,337	17,747	1,898	1,403	(D)	(D)	270	846	(D)	3,349	88,590	

^D Suppressed to avoid disclosure of data of individual companies.

UBO Ultimate beneficial owner

NOTE.—The data for all U.S. businesses are from the Bureau of the Census, U.S. Exports: Schedule E Commodity Groupings by World Area and Country (FT450/1987) and U.S. General Imports: Schedule A Commodity Groupings by World Area and Country (FT150/1987). The figures for other U.S. businesses were derived through subtraction. The totals for U.S. exports and im-

ports shown in this table do not agree with those shown in table 1, partly because, unlike the totals shown in table 1, the figures for U.S. trade by Schedule A and Schedule E commodity group have not been revised since their initial publication in 1988. Also, for U.S. exports, the Schedule E figures are only for U.S. domestic exports, whereas the revised total reported in table 1 is for total exports including re-exports.

Table 6-6.—Measures of Geographic Diversification of Merchandise Trade of U.S. Affiliates, by Country of UBO, 1987

	Index of geographic diversification of affiliate trade ¹		Trade with country of UBO as a percentage of total affiliate trade	
	Exports	Imports	Exports	Imports
Canada	0.876	0.456	30.7	73.4
France .....	.935	.671	6.4	55.7
Germany, Federal Republic of .....	.863	.318	30.2	82.5
Japan .....	.399	.132	77.3	93.1
Netherlands .....	.882	.915	19.7	16.6
Switzerland .....	.922	.795	15.2	42.8
United Kingdom .....	.909	.852	19.7	33.0

1. This index is expressed as $1 - \sum s_i^2$, where s_i is the share of country i in the total exports or imports of U.S. affiliates of the given country of UBO. The index may take on a value ranging from 0 to 1, with values closer to 1 indicating greater diversification in the destination of exports, or in the origin of imports, across all 190 countries identified in the 1987 benchmark survey. A similar index has been employed in studies of industrial diversification. See Charles H. Berry, "Corporate Growth and Diversification," *Journal of Law and Economics* 14 (October 1971): 371-83.
 UBO Ultimate beneficial owner

Table 6-7.—U.S. Merchandise Trade with Major Countries Accounted for by U.S. Affiliates of Foreign Companies and by Other U.S. Companies, 1987

	Millions of dollars					Percent of total U.S. trade					Addenda: Trade with foreign affiliates of U.S. companies in partner country	
	Total U.S. trade	Trade by U.S. affiliates			Trade by other U.S. companies	Total U.S. trade	Trade by U.S. affiliates			Trade by other U.S. companies		
		Total	By affiliates with UBO located in partner country	By affiliates with UBO located elsewhere			Total	By affiliates with UBO located in partner country	By affiliates with UBO located elsewhere			
											Millions of dollars	Percent of total U.S. trade
U.S. exports to:												
Canada	59,814	4,169	1,522	2,647	55,645	100.0	7.0	2.5	4.4	93.0	34,010	56.9
France	7,943	826	348	478	7,117	100.0	10.4	4.4	6.0	89.6	2,526	31.8
Germany, Federal Republic of	11,802	2,164	1,099	1,065	9,638	100.0	18.3	9.3	9.0	81.7	3,503	29.7
Japan	28,249	18,983	15,773	3,210	9,266	100.0	67.2	55.8	11.4	32.8	4,907	17.4
Netherlands	8,217	1,181	293	888	7,036	100.0	14.4	3.6	10.8	85.6	3,343	40.7
Switzerland	3,151	617	294	323	2,534	100.0	19.6	9.3	10.3	80.4	926	29.4
United Kingdom	14,114	2,568	737	1,831	11,546	100.0	18.2	5.2	13.0	81.8	5,292	37.5
U.S. imports from:												
Canada	71,085	7,952	5,898	2,054	63,133	100.0	11.2	8.3	2.9	88.8	30,670	43.1
France	10,730	3,189	2,412	777	7,541	100.0	29.7	22.5	7.2	70.3	1,475	13.7
Germany, Federal Republic of	27,155	16,372	14,239	2,133	10,783	100.0	60.3	52.4	7.9	39.7	2,158	7.9
Japan	84,575	69,266	67,580	1,686	15,309	100.0	81.9	79.9	2.0	18.1	8,739	10.3
Netherlands	3,964	1,173	707	466	2,791	100.0	29.6	17.8	11.8	70.4	504	12.7
Switzerland	4,249	2,421	1,825	596	1,828	100.0	57.0	43.0	14.0	43.0	298	7.0
United Kingdom	17,341	4,754	3,506	1,248	12,587	100.0	27.4	20.2	7.2	72.6	5,288	30.5

NOTE.—The data on total U.S. trade with each country are from the Census Bureau; the data on trade by other U.S. companies were derived through subtraction. The data in the addenda are from BEA's 1987 annual survey of U.S. direct investment abroad. Because U.S. companies with foreign affiliates may themselves be affiliates of foreign companies, these data may partly duplicate the trade data for U.S. affiliates shown in other columns.

Table 6-8.—Intrafirm Merchandise Trade by Country of UBO, 1977–91

[Percent]

	Country of UBO								
	All countries	Canada	France	Germany ¹	Japan	Netherlands	Switzerland	United Kingdom	Other countries
Share of affiliate exports shipped to foreign parent groups									
1977	47.0	53.2	(^D)	27.4	71.0	57.8	37.9	32.1	(^D)
1978	51.5	54.0	30.9	21.0	73.1	49.0	38.7	32.1	38.0
1979	49.8	54.7	(^D)	47.7	73.6	51.2	40.5	26.8	(^D)
1980	40.2	53.2	3.1	31.9	74.0	41.6	32.1	21.7	21.0
1981	42.0	20.5	10.2	46.7	72.4	36.6	37.3	25.4	27.2
1982	41.5	17.8	24.0	46.0	63.9	43.8	23.4	20.0	36.8
1983	41.9	18.9	25.6	34.5	61.3	49.7	18.5	22.6	34.8
1984	46.5	19.6	37.4	35.1	66.4	48.0	23.4	26.7	36.4
1985	45.9	20.8	29.8	44.5	69.5	43.4	24.8	27.3	29.7
1986	44.1	19.1	33.5	46.8	58.0	43.4	26.6	26.8	45.1
1987	39.7	17.7	17.2	38.0	53.2	50.2	30.5	30.1	39.8
1988	38.0	18.9	11.6	32.7	54.8	51.1	25.7	27.3	41.8
1989	39.7	25.0	22.2	33.2	55.3	39.1	25.8	25.3	39.3
1990	40.9	18.7	24.9	32.1	57.1	42.7	30.6	22.9	36.2
1991 ^P	42.3	18.9	27.8	33.1	58.5	39.8	32.0	24.9	37.3
Share of affiliate imports shipped from foreign parent groups									
1977	70.3	85.6	90.6	88.9	84.4	41.2	49.8	37.6	59.5
1978	69.8	83.7	82.0	87.1	84.9	39.4	45.3	39.2	49.3
1979	71.9	84.1	76.9	88.2	86.4	37.2	38.7	40.4	63.7
1980	62.0	82.8	72.5	88.4	79.3	36.1	45.6	32.4	35.3
1981	63.5	66.4	64.4	84.7	78.4	20.1	53.9	34.0	46.3
1982	61.6	69.5	71.4	76.8	75.0	38.8	55.8	40.0	35.3
1983	67.3	72.7	74.3	81.1	77.5	28.7	55.7	40.6	55.2
1984	70.1	67.2	69.6	76.9	80.9	30.0	57.4	41.2	61.3
1985	72.1	68.7	67.8	82.3	82.4	31.3	62.3	38.2	62.1
1986	74.3	70.5	66.9	88.0	81.9	40.4	60.5	37.6	70.1
1987	75.4	71.2	75.4	86.9	79.0	39.5	76.3	46.9	76.4
1988	76.1	74.2	63.8	86.0	82.3	45.2	73.5	48.8	73.8
1989	75.6	67.6	65.5	84.0	83.9	40.9	73.6	49.0	71.6
1990	75.1	66.8	57.4	80.8	83.5	43.3	78.6	50.9	72.6
1991 ^P	74.1	62.7	61.2	80.9	80.6	46.3	78.6	48.5	73.2

^D Suppressed to avoid disclosure of data of individual companies.^P Preliminary.

1. For the years prior to 1990, includes data only for the Federal Republic of Germany. Beginning with 1990, also includes the former German Democratic Republic (GDR). This change has no effect on the data because there were no U.S. affiliates of the former GDR prior to 1990.

UBO Ultimate beneficial owner

Table 6-9.—Share of Imports in Total Purchased Inputs of U.S. Affiliates, by Industry of Affiliate, 1987–91

[Percent]

	1987	1988	1989	1990	1991 ^P	Addendum: Share for U.S. parent companies 1989
All industries	24.2	22.0	20.4	19.4	19.6	8.6
Petroleum	16.8	14.7	20.3	20.4	19.5	10.9
Manufacturing	16.0	16.6	16.1	16.7	17.3	11.3
Food and kindred products	9.9	8.7	7.2	6.6	8.0	2.8
Chemicals and allied products	11.1	12.4	12.3	12.1	13.2	8.8
Primary and fabricated metals	18.8	14.2	13.0	14.0	14.1	8.3
Machinery	26.5	28.3	27.5	30.8	29.4	16.5
Machinery, except electrical	30.3	21.3	22.4	31.0	30.4	17.9
Electric and electronic equipment	24.7	33.3	32.7	30.7	28.6	14.8
Other manufacturing	15.1	16.3	17.1	16.5	18.2	13.0
Transportation equipment	38.3	42.7	42.4	36.0	39.5	19.2
Other	11.3	11.9	10.3	11.2	12.1	5.2
Wholesale trade	41.0	37.2	35.0	32.3	33.9	17.0
Retail trade	5.6	4.6	3.2	3.6	3.6	4.7
Finance (except banking), insurance, and real estate ....	.1	(*)	(*)	(*)	(*)	.3
Services	1.0	4.0	1.2	1.3	1.0	.6
Other industries	3.0	2.9	2.3	2.4	2.7	1.9

* Less than 0.05 percent.

^P Preliminary.

Table 6-10.—Share of Imports in Total Purchased Inputs of U.S. Affiliates, by Industry and by Country of UBO, 1990 and 1991

[Percent]

	All countries		Canada		France		Germany		Japan		Netherlands		Switzerland		United Kingdom	
	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P
All industries	19.4	19.6	12.7	12.7	12.1	10.7	21.6	19.9	30.2	31.7	12.3	11.5	10.4	10.1	9.6	9.2
Petroleum	20.4	19.5	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	0	0	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)
Petroleum and coal products manufacturing	19.1	17.1	(^D)	(^D)	(^D)	(^D)	0	0	0	0	(^D)	(^D)	0	0	(^D)	(^D)
Other	22.2	22.6	38.2	34.6	(^D)	(^D)	(^D)	(^D)	0	0	(^D)	(^D)	(^D)	(^D)	(^D)	0
Manufacturing	16.7	17.3	15.7	16.5	17.3	16.2	21.4	20.9	28.4	28.0	14.4	14.0	10.5	11.9	9.4	10.0
Food and kindred products	6.6	8.0	15.2	18.6	7.3	7.4	9.6	7.4	2.4	3.2	1.5	1.7	(^D)	(^D)	8.2	9.1
Beverages	5.6	6.6	(^D)	(^D)	(^D)	(^D)	(^D)	7.4	2.1	3.7	n.a.	n.a.	(^D)	(^D)	(^D)	(^D)
Other	7.0	8.6	6.0	9.2	6.8	6.7	(^D)	7.0	2.4	3.1	1.5	1.7	(^D)	(^D)	8.7	(^D)
Chemicals and allied products	12.1	13.2	(^D)	(^D)	9.6	9.5	18.4	18.5	5.1	7.2	3.4	3.1	15.8	17.4	11.6	13.2
Industrial chemicals and synthetics	12.9	14.5	(^D)	(^D)	(^D)	(^D)	21.2	22.5	4.2	6.0	(^D)	(^D)	21.2	21.4	(^D)	(^D)
Drugs	15.4	17.4	0	0	(^D)	(^D)	10.7	(^D)	3.2	3.8	(^D)	1.0	17.3	18.8	(^D)	(^D)
Soap, cleaners, and toilet goods	3.0	2.7	(^D)	(^D)	(^D)	(^D)	1.4	1.0	5.1	7.9	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)
Other	15.7	14.1	3.6	6.0	(^D)	7.0	19.1	(^D)	15.0	18.5	(^D)	(^D)	12.1	11.9	(^D)	(^D)
Primary and fabricated metals	14.0	14.1	26.7	(^D)	7.3	6.9	20.0	21.4	6.6	5.9	4.1	2.2	18.9	13.5	7.2	7.3
Primary metal industries	15.2	16.0	(^D)	29.0	8.8	11.2	24.2	21.9	5.3	3.7	n.a.	0	(^D)	(^D)	(^D)	7.6
Ferrous	7.9	10.3	8.4	11.6	(^D)	(^D)	(^D)	53.2	4.7	2.8	n.a.	0	n.a.	n.a.	1.4	(^D)
Nonferrous	22.4	22.5	(^D)	(^D)	(^D)	(^D)	16.6	12.8	16.0	17.9	n.a.	n.a.	(^D)	(^D)	(^D)	(^D)
Fabricated metal products	11.1	10.4	(^D)	(^D)	(^D)	(^D)	18.4	21.2	18.6	20.9	4.1	2.2	(^D)	(^D)	(^D)	6.5
Machinery	30.8	29.4	22.7	21.5	49.2	33.3	37.5	33.5	46.7	43.1	(^D)	(^D)	12.2	13.8	12.1	11.5
Machinery, except electrical	31.0	30.4	(^D)	(^D)	(^D)	20.3	25.9	25.5	48.5	45.3	20.8	21.8	19.3	21.1	12.9	9.5
Computer and office equipment	45.5	45.5	5.2	(^D)	(^D)	(^D)	.7	.6	62.1	58.3	4.9	3.1	(^D)	(^D)	(^D)	(^D)
Other	22.7	22.8	17.8	11.2	(^D)	15.5	27.4	27.2	32.0	30.1	30.2	29.8	(^D)	(^D)	(^D)	7.8
Electric and electronic equipment	30.7	28.6	(^D)	(^D)	(^D)	37.5	43.7	39.2	41.4	38.1	(^D)	(^D)	(^D)	(^D)	11.3	14.3
Audio, video, and communications equipment	46.6	43.4	(^D)	(^D)	(^D)	(^D)	0	(^D)	51.1	50.2	(^D)	(^D)	(^D)	(^D)	12.9	(^D)
Electronic components and accessories	35.2	31.1	(^D)	9.8	(^D)	(^D)	(^D)	43.7	43.5	39.2	1.0	.9	15.5	(^D)	20.0	25.7
Other	16.5	18.0	10.3	(^D)	(^D)	(^D)	(^D)	(^D)	26.7	32.5	18.9	24.4	(^D)	(^D)	6.1	(^D)
Other manufacturing	16.5	18.2	12.0	11.9	14.9	17.1	14.1	14.8	36.4	36.9	12.6	11.4	(^D)	(^D)	7.5	7.8
Textile products and apparel	10.5	10.3	(^D)	2.9	25.0	25.2	21.6	23.6	12.7	10.4	(^D)	17.7	1.0	3.3	4.3	3.4
Lumber, wood, furniture and fixtures	9.4	7.9	18.6	8.5	29.9	2.6	7.0	5.6	20.1	12.5	n.a.	n.a.	26.8	9.9	1.7	1.0
Paper and allied products	13.0	13.8	37.1	(^D)	.2	(^D)	23.5	23.0	(^D)	(^D)	(^D)	0	(^D)	(^D)	(^D)	(^D)
Printing and publishing	1.7	2.8	1.7	4.4	(^D)	(^D)	1.5	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	1.8	2.1
Newspapers	(^D)	(^D)	(^D)	(^D)	n.a.	n.a.	0	0	0	0	n.a.	n.a.	n.a.	n.a.	(^D)	(^D)
Other	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	1.5	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)
Rubber products	18.7	22.1	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	48.3	65.8	(^D)	(^D)
Miscellaneous plastics products	18.2	11.7	(^D)	(^D)	5.3	6.7	(^D)	9.9	27.9	12.6	(^D)	(^D)	34.2	46.7	1.6	2.5
Stone, clay, and glass products	8.5	8.1	(^D)	(^D)	9.0	9.4	19.4	17.5	16.0	14.2	19.0	12.2	8.9	9.5	(^D)	(^D)
Transportation equipment	36.0	39.5	(^D)	22.4	27.4	(^D)	32.5	49.2	52.7	(^D)	0	21.5	n.a.	19.7	31.2	(^D)
Motor vehicles and equipment	40.4	45.1	(^D)	(^D)	(^D)	(^D)	(^D)	49.3	52.8	n.a.	n.a.	21.5	n.a.	(^D)	(^D)	(^D)
Other transportation equipment, nec	16.3	16.7	1.5	(^D)	(^D)	(^D)	(^D)	10.4	9.4	(^D)	0	n.a.	n.a.	(^D)	(^D)	(^D)
Instruments and related products	14.6	12.8	(^D)	(^D)	28.7	26.5	19.2	22.6	24.0	25.9	35.6	35.1	26.1	24.0	9.4	6.9
Other	17.0	31.9	(^D)	13.7	20.7	(^D)	19.8	6.7	(^D)	37.9	79.6	74.5	(^D)	(^D)	(^D)	(^D)
Wholesale trade	32.3	33.9	44.6	39.8	11.6	12.1	39.9	39.6	34.6	38.3	(^D)	19.9	21.6	19.7	15.3	12.2
Retail trade	3.6	3.6	(^D)	2.0	1.9	1.7	3.1	3.5	14.6	3.2	(^D)	3.8	(^D)	(^D)	3.7	5.8
Finance, except banking	([*])	([*])	0	0	.7	.5	0	0	([*])	0	0	0	0	0	0	0
Insurance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Real estate	([*])	([*])	([*])	([*])	0	0	.1	.1	([*])	.1	0	0	0	0	0	0
Services	1.3	1.0	1.1	1.1	(^D)	(^D)	.8	.5	.7	.8	.4	([*])	0	0	1.4	.9
Other industries	2.4	2.7	2.8	(^D)	(^D)	2.7	(^D)	(^D)	.2	.4	(^D)	(^D)	(^D)	(^D)	(^D)	.7

^{*} Less than 0.05 percent.^P Preliminary.^D Suppressed to avoid disclosure of date of individual companies.

n.a. No affiliates in cell.

1. Computed ratio in cell is distorted by the exit in 1990 of one or more affiliates that were very large in 1989.

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Table 6-11.—U.S. Affiliates of All Countries and of Seven Major Investing Countries: Number of Manufacturing Industries Distributed by Size of Affiliate Share of Imports in Total Purchased Inputs, 1990 and 1991

[Number of industries]

Share of imports in total purchased inputs (percent)	All countries		Canada		France		Germany		Japan		Netherlands		Switzerland		United Kingdom	
	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P	1990	1991 ^P
All manufacturing industries (26 industries):																
0-9.9	8	7	14	13	10	9	8	12	9	10	11	12	8	8	15	18
10.0-19.9	12	11	6	7	7	6	10	4	6	7	3	3	6	7	9	4
20.0-29.9	2	3	2	2	5	6	4	6	5	2	1	3	5	3	1	3
30.0-39.9	1	2	3	3	0	1	0	2	1	4	2	1	1	1	0	0
40.0-49.9	3	3	1	0	2	0	2	1	2	0	1	1	2	2	1	0
50.0 or more	0	0	0	0	1	2	1	1	3	3	1	1	0	1	0	1
Addenda:																
Industries with no foreign direct investment	0	0	0	0	1	1	0	0	0	0	6	5	3	4	0	0
Industries for which computed ratio is not meaningful	0	0	0	1	0	1	1	0	0	0	1	0	1	0	0	0
Machinery, transportation equipment and instruments industries (8 industries):																
0-9.9	0	0	4	4	0	1	3	3	0	1	2	3	2	1	1	4
10.0-19.9	3	3	3	3	5	2	1	0	1	0	1	0	2	2	4	1
20.0-29.9	1	1	1	1	1	3	1	2	2	1	1	2	3	2	1	2
30.0-39.9	1	1	0	0	0	0	0	2	1	3	2	1	0	1	0	0
40.0-49.9	3	3	0	0	1	0	2	1	2	0	1	1	0	0	1	0
50.0 or more	0	0	0	0	1	2	1	0	2	3	0	0	0	0	0	1
Addendum:																
Industries with no foreign direct investment	0	0	0	0	0	0	0	0	0	0	1	1	1	2	0	0

^P Preliminary.

Characteristics of Foreign-Owned U.S. Manufacturing Establishments

by Ned G. Howenstine and William J. Zeile*

This chapter examines the characteristics of foreign-owned U.S. manufacturing establishments on the basis of newly released data from a joint project of the Bureau of Economic Analysis (BEA) and the Bureau of the Census. The data greatly expand the establishment-level information available on the manufacturing operations of U.S. affiliates of foreign companies.¹ Because the establishment data provide more detailed and more precise information on the industrial composition of affiliates' operations than BEA's enterprise data (Box 7-1 on the following page), they can significantly enhance and extend the analysis of key questions about foreign direct investment in the United States (FDIUS), such as whether foreign-owned plants account for significant shares of total U.S. production in specific manufacturing industries and whether the wage rates and productivity of foreign-owned U.S. plants differ from those of U.S.-owned plants.

The new data on foreign-owned manufacturing establishments indicate the following:

- The average plant size, or scale, of foreign-owned establishments is much larger than that of U.S.-owned establishments, mostly reflecting the tendency for foreign-owned establishments to be larger than U.S.-owned establishments within specific industries. Less important is the tendency of foreign-owned establishments to be concentrated in industries with larger-than-average plant size.
- The capital intensity of foreign-owned establishments is higher than that of U.S.-owned establishments, almost entirely reflecting foreign-owned establishments' relatively greater concentration in the industries that are the most capital intensive; the overall effect of within-industry differences is negligible. In many industries, the capital intensity of foreign-owned establishments differs from that of U.S.-owned establishments, but there is no systematic tendency for this difference to be in one direction or the other.
- The hourly wages paid to production workers are higher for foreign-owned establishments than for U.S.-owned establishments. Foreign-owned establishments tend to be in higher wage industries, and their production is more concentrated in large plants, which generally have higher wage rates than small plants. Foreign ownership per se does not appear to influence wage rates.
- The labor productivity of foreign-owned establishments is higher than that of U.S.-owned establishments, largely reflecting the tendency for foreign-owned establishments to be concentrated in industries in which productivity is high. There are also within-industry differences in productivity, but they appear to be attributable largely to factors that have frequently been found to influence productivity—namely, plant size, capital intensity, and employee skill level—rather than to foreign ownership per se.

* The authors are economists in the International Investment Division, Bureau of Economic Analysis, Economics and Statistics Administration, U.S. Department of Commerce. This chapter was previously published as an article in the *Survey of Current Business*, January 1994.

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¹ A U.S. affiliate is a U.S. business enterprise that is owned 10 percent or more, directly or indirectly, by a foreign person. "Person" is broadly defined to include any individual, corporation, branch, partnership, associated group, association, estate, trust, or other organization and any government (including any corporation, institution, or other entity or instrumentality of a government). The data are not adjusted for percentage of foreign ownership. Thus, for example, the employment data shown here include all employees at the manufacturing establishments of each U.S. affiliate, even though the foreign investor may own as little as 10 percent of the affiliate. However, most affiliates are majority owned; based on BEA data, U.S. affiliates that are majority owned (that is, affiliates that are owned more than 50 percent by direct investors) accounted for 85 percent of all manufacturing employment by U.S. affiliates.

The new data on foreign-owned manufacturing establishments, which cover 1989 and 1990, were released in 1993 as part of an ongoing effort to augment

and improve U.S. Government data on FDIUS. The data were obtained by linking BEA enterprise, or company, data on FDIUS with more detailed Census Bureau establishment, or plant, data for all U.S. companies.² For the linked establishments (hereafter referred to as “foreign-owned establishments”), data from the Census Bureau’s annual survey of manufactures (ASM) were then extracted.

The new data on foreign-owned manufacturing establishments cover most of the ASM items, including value added, shipments, employment, total employee compensation, employee benefits, hourly wage rates of production workers, cost of materials and energy used, inventories by stage of fabrication, and expenditures for new plant and equipment. Data are also included on the number of foreign-owned establishments. Totals for

1989 and 1990 for each of these items are shown in Table 7-1. The data are also available by highly detailed industry, by State, and by country of investor. Summary data for 1990 appear in Tables 7-2 through 7-13.

The new ASM data update and extend the link project’s initial results, published in 1992, which were for 1987—a benchmark, or census, year for both BEA and the Census Bureau. The 1987 data covered both manufacturing and nonmanufacturing establishments, but presented fewer measures of their operations than are available from the new ASM-based series.³ In 1994, BEA and the Census Bureau published ASM data for foreign-owned manufacturing establishments for 1991 and for 1988.

This article analyzes the operations of foreign-owned manufacturing establishments on the basis of the 1990 ASM data. Although the data are for the year 1990, most of the findings probably also apply to more

²A parallel project has linked BEA’s FDIUS data to Bureau of Labor Statistics (BLS) data on all U.S. businesses. The initial results of that link, released in 1992 by BLS, provided data for 1989 and 1990 on the number, employment, and payroll of foreign-owned establishments for both manufacturing and nonmanufacturing industries. In October 1993, BLS released information on the occupational structure of foreign-owned manufacturing establishments in 1989. Data from the two link projects differ, particularly at the most detailed industry levels, because of differences in coverage, classification, timing, and definitions. Both projects were authorized by Congress under the Foreign Direct Investment and International Financial Data Improvements Act of 1990.

³For summary data for 1987, see “Foreign Direct Investment in the United States: Establishment Data for 1987,” *Survey of Current Business* 72 (October 1992): 44-78. For a slightly expanded version of that article, see Office of the Chief Economist, Economics and Statistics Administration, U.S. Department of Commerce, *Foreign Direct Investment in the United States: An Update* (Washington, DC: U.S. Government Printing Office, June 1993).

Box 7-1

Establishment and Enterprise Data for U.S. Affiliates Compared

The establishment data presented in this chapter complement BEA’s enterprise data for U.S. affiliates. BEA’s enterprise data are needed for analyzing the overall significance of, and trends in, direct investment and for compiling the U.S. international transactions accounts, the international investment position of the United States, and the U.S. national income and product accounts. The data on positions and transactions between U.S. affiliates and their foreign parents used in compiling the national and international accounts exist only at the enterprise level. Analyses of some topics, such as profits and taxes, are meaningful only at that level. Furthermore, balance sheets and income statements containing the critical, nonduplicative financial and operating data needed for examining these topics exist only at the enterprise level.

The establishment data facilitate analysis of the activities and importance of foreign-owned U.S. companies in specific industries because they provide more detailed and more precise information on the industrial composition of U.S. affiliates’ operations than BEA’s enterprise data. Whereas BEA’s enterprise data classify each company, however diversified, in a single industry, the establishment data permit each plant or location of a company to be classified separately. Furthermore, the level of industry classification can be much more detailed for individual establishments than is appropriate for consolidated enterprises, whose operations may span many narrowly defined industries. As a result, foreign-owned establishments can be classified into 459 manufacturing industries, whereas BEA’s foreign-owned enterprises can be classified into only 55 manufacturing industries.

The establishment data also provide more detailed State-by-industry data than are available from the enterprise data, and the ASM data introduced in this article include the first available State-level measures of manufacturing production (value added) by foreign-owned firms.

Finally, the establishment-level data for foreign-owned and U.S.-owned companies presented in this article are closely comparable because they are from the same source. In contrast, the enterprise-level data for foreign-owned U.S. companies collected by BEA are frequently not comparable, except at highly aggregated levels, with data for all U.S. companies collected by other Government agencies. Because the other agencies’ data are collected for different purposes, they often differ significantly in concept, definitions, consolidation, and industry classification from BEA’s data for foreign-owned companies.

recent years, because both the overall level and the industry and country composition of foreign direct investment in U.S. manufacturing have changed little since then.⁴

The remainder of this chapter consists of two sections and a technical note. The first section provides an overview of the operations of foreign-owned manufacturing establishments by industry, country, and State. The second compares the following key aspects of the operations of foreign-owned establishments with those of U.S.-owned establishments: Plant size, capital intensity, employee compensation, hourly wage rates of production workers, and labor productivity. The technical note describes the statistical decomposition method used in the chapter to separate industry-mix effects from within-industry differences and discusses how the estimation of data for foreign-owned establishments and the inclusion of residual industries, which cover establishments not elsewhere classified, affect the findings of the chapter.

Overview of Operations

In 1990, there were 11,900 foreign-owned manufacturing establishments in the United States. They employed 2 million workers and had shipments of \$418 billion. Their value added, an approximate measure of production, was \$177 billion, 13 percent of the value added by all U.S. manufacturing establishments (Table 7-5).⁵

More than one-half of the value added by foreign-owned manufacturing establishments in 1990 was accounted for by four Standard Industrial Classification (SIC) two-digit industries: Chemicals and allied products (\$49 billion), food and kindred products (\$20 billion), electronic and other electric equipment (\$17 billion), and industrial machinery and equipment (\$14 billion). Production in the chemicals industry alone accounted for more than one-fourth of the value added by foreign-owned manufacturing establishments.

Among SIC two-digit industries, the share of total

U.S. production accounted for by foreign-owned establishments was largest in chemicals (32 percent), followed by stone, clay, and glass products (25 percent) and primary metals (19 percent). The share was less than 5 percent in four industries: Apparel and other textile products, lumber and wood products, furniture and fixtures, and transportation equipment.

Within a given two-digit industry, the shares for the component subindustries may vary considerably. In

Table 7-1
Data for Foreign-Owned Manufacturing
Establishments, 1989 and 1990
(Billions of dollars, except as noted)

	1989	1990
Number of establishments	10,458	11,934
Value added by manufacture	161.9	177.4
Value of shipments	371.9	417.5
Employment and employee compensation:		
Total employment (1000s of employees)	1,815.3	2,004.2
Production workers (1000s of employees)	1,083.0	1,188.1
Other workers (1000s of employees)	732.3	816.1
Production worker hous (millions of hours)	2,203.2	2,411.7
Employee compensation, total	67.8	78.1
Payroll	55.6	63.5
Production worker wages	26.6	30.3
Other workers	28.9	33.2
Benefits	12.2	14.6
Legally required	4.8	5.6
Other	7.5	9.0
Production worker wages per hour (dollars)	12.08	12.57
Expenditures for new plant and equipment:		
Total	16.1	19.7
Buildings and other structures	2.8	3.2
Machinery and equipment	13.3	16.5
Materials:		
Cost of materials, total	211.7	241.5
Of which:		
Purchased fuels and electric energy	9.0	10.1
Fuels	3.7	4.2
Electric energy	5.3	5.9
Quantity of electric energy used (trillion kWh)	122.0	135.2
Inventories:		
End of year, total	49.9	55.5
Finished products	20.2	23.2
Work-in-progress	13.0	13.7
Materials, supplies, fuels, etc.	16.8	18.7
Beginning of year, total	47.2	53.8
Finished products	18.7	21.7
Work-in-progress	12.4	13.6
Materials, supplies, fuels, etc.	16.1	18.4

kWh Kilowatthours.

⁴Although foreign direct investment in manufacturing grew rapidly between 1987 and 1990, data from BEA's enterprise surveys indicate that there was little growth in the industry in 1991 and 1992. According to BEA's annual survey of FDIUS, total manufacturing employment of U.S. affiliates in 1991 was almost the same as that in 1990, and changes in the composition of employment among subindustries of manufacturing and among investing countries were small. Moreover, data from BEA's survey of U.S. businesses acquired or established by foreign direct investors indicate that in 1992, new investment in manufacturing was at the lowest level in 8 years and was less than one-half that in 1991. In the May 1993 Survey, see "U.S. Affiliates of Foreign Companies: Operations in 1991" and "U.S. Business Enterprises Acquired or Established by Foreign Direct Investors in 1992."

⁵ Value added measured by the Census Bureau's ASM differs from BEA's national income and product accounts measure of gross product because it includes purchased services but excludes indirect taxes and because it reflects inventory change valued at book value rather than at replacement cost.

transportation equipment, for example, where foreign-owned establishments' share of value added was just under 5 percent, shares for SIC three-digit subindustries ranged from less than 1 percent for "guided missiles, space vehicles, and parts" to 12 percent for railroad equipment. The share for motor vehicles and equipment was 8 percent.

At the SIC four-digit level, foreign-owned establishments had operations in 429 of the 459 manufacturing industries. They accounted for less than 5 percent of total industry production in 149 industries and for more than 30 percent in 45 industries (Table 7-2). Of the latter group, 13 industries were in chemicals, 6 in stone, clay, and glass products, and 6 in electronic and other electric equipment.

In nine industries, foreign-owned establishments accounted for more than one-half of total U.S. production. Their shares were highest in three chemicals industries: Inorganic pigments (71 percent), biological products except diagnostic (69 percent), and noncellulosic organic fibers (67 percent) (Table 7-14). Among the industries outside chemicals, the share was highest in hydraulic cement (62 percent).

⁶The UBO is that person, proceeding up a U.S. affiliate's ownership chain, beginning with and including the foreign parent, that is not owned more than 50 percent by another person. The foreign parent is the first foreign person in the affiliate's ownership chain. Unlike the foreign parent, the UBO of an affiliate may be located in the United States. The UBO of each U.S. affiliate is identified to ascertain the person that ultimately owns or controls and that, therefore, ultimately derives the benefits from owning or controlling the U.S. affiliate.

Table 7-2
Distribution of Manufacturing Industries
According to Foreign-Owned Establishments'
Share of Value Added, 1990

Percentage of an industry's value added accounted for by foreign-owned establishments	Number of industries
0 ¹	30
Less than 5.0 ²	119
5.0-9.9	89
10.0-14.9	73
15.0-19.9	43
20.0-24.9	33
25.0-29.9	27
30.0-34.9	10
35.0-39.9	13
40.0-44.9	6
45.0-49.9	7
50.0 or more	9

¹ Industries with no foreign-owned establishments.

² Includes three industries for which value added by foreign-owned establishments was negative in 1990.

NOTE.--The distribution is across the 459 industries defined at the four-digit level of the Standard Industrial Classification.

By Country

In 1990, more than 80 percent of the employment, shipments, and value added by all foreign-owned manufacturing establishments were accounted for by establishments with ultimate beneficial owners (UBO's) in seven countries: Canada, France, Germany, Japan, the Netherlands, Switzerland, and the United Kingdom (Table 7-6).⁶ The establishments of these seven countries accounted for 86 percent of the value added by all foreign-owned manufacturing establishments and for 11 percent of the value added by all U.S. manufacturing establishments.

Among establishments of individual investing countries, British-owned establishments accounted for the largest share of production by foreign-owned manufacturing establishments (23 percent), followed by Canadian-owned establishments (15 percent) and Japanese-owned establishments (13 percent). The share of total U.S. manufacturing production accounted for by British-owned establishments was 3 percent.

British-owned establishments also accounted for the largest share of production by foreign-owned establishments in 10 of the 20 SIC two-digit manufacturing industries. Among these 10 industries, their share of total U.S. manufacturing production was largest in tobacco products, petroleum and coal products, food and kindred products, and instruments and related products (Table 7-7).

Japanese-owned establishments accounted for the largest share of production by foreign-owned establishments in four industries: Primary metals, industrial machinery and equipment, electronic and other electric equipment, and transportation equipment. Their share of total U.S. manufacturing production was largest in primary metals and in electronic and other electric equipment.

Table 7-8 presents, for each of the seven major investing countries, ratios of the country's share of U.S. value added in each SIC two-digit industry to the country's share of value added in manufacturing as a whole. These ratios can be interpreted as indexes of relative intensity of investment by a country, taking into account both the size of the industry and the overall level of manufacturing production by the country's U.S. establishments. Because these ratios allow for variations in both industry size and production levels, the ratios, unlike simple distributions of value added, can be compared across countries as well as among industries. A value greater than 1.0 indicates that production by the investing country's establishments was more intense in the given industry than in manufacturing as a whole. For example, Japanese-owned establishments accounted for 1.7 percent of total U.S. manufacturing production but for 3.5 percent of U.S. production in rubber products; thus, the value of the index for Japa-

nese-owned establishments in rubber products was 2.0, indicating a relatively high intensity of investment in the industry.

In the table, France stands out because of the relatively high intensity of its investment in stone, clay, and glass products: In 1990, French-owned establishments' share of U.S. production in this industry was nearly six times as large as their share in total manufacturing. France also shows relatively intense investment in the rubber products industry, where French-owned establishments' share of production was nearly four times as large as their share in total manufacturing.

Japan shows relatively intense investment in the primary metals industry; Japanese-owned establishments' share of production in this industry was more than four times as large as that in total manufacturing. In contrast, their share of production in transportation equipment was only slightly higher than their share in total manufacturing.

Germany shows relatively intense investment in chemicals, as do Switzerland and the Netherlands. The establishments of each of these three countries had shares of production in chemicals that were nearly four times as large as their shares in total manufacturing.

By State

The States with the largest production by foreign-owned manufacturing establishments were California, Texas, New Jersey, North Carolina, Ohio, and New York (Table 7-9). These six States accounted for 41 percent of the total production by foreign-owned manufacturing establishments in the United States. By two-digit industry, California accounted for a particularly large share of the production in electronic and other electric equipment (23 percent), and New York accounted for a very large share in printing and publishing (26 percent) (Table 7-10). Texas, New Jersey, and North Carolina together accounted for nearly 40 percent of the production by foreign-owned establishments in chemicals, and Ohio accounted for nearly 20 percent in transportation equipment.

Among two-digit industries, chemicals accounted for the largest share of production by foreign-owned manufacturing establishments in 20 States, and food products accounted for the largest share in 11 States. The chemicals industry accounted for more than one-half of foreign-owned production in five States: Delaware, West Virginia, New Jersey, Texas, and Virginia.

The States in which foreign-owned establishments accounted for the largest share of manufacturing production were Delaware (37 percent), West Virginia (36 percent), New Jersey (24 percent), Georgia (19 percent), South Carolina (19 percent), and North Carolina (19 percent). In several of these States, foreign-owned establishments accounted for very large shares of chemicals production—74 percent in Delaware, 56 percent in

West Virginia, 47 percent in New Jersey, and 60 percent in North Carolina (Table 7-11). In North Carolina, foreign-owned establishments also accounted for large shares of production in both the electronics and the instruments industries (40 percent in each). In South Carolina, foreign-owned establishments accounted for more than 50 percent of the State's production in the rubber products industry.

Comparison of Foreign-Owned and U.S.-Owned Establishments

This section compares the operations of foreign-owned manufacturing establishments with those of U.S.-owned ones in terms of plant size (or scale), capital intensity, compensation per employee, production-worker wage rates, and labor productivity.⁷ The section also examines whether differences between the hourly wage rates of production workers in foreign-owned and U.S.-owned establishments reflect differences in their plant scale and capital intensity or whether they can be attributed to foreign ownership per se. Finally, it examines whether differences between the productivity of foreign-owned and U.S.-owned establishments reflect differences in their plant scale, capital intensity, or employee skill levels or whether they can be attributed to foreign ownership per se.

Plant Scale

For total manufacturing, average plant scale (measured as value added per establishment) of foreign-owned establishments was much larger than that of U.S.-owned establishments—\$17.3 million, compared with \$3.2 million, or a difference of \$14.1 million.⁸ A statistical decomposition of the difference indicated that 60 percent of it was attributable to a tendency in some industries for the plant scale of foreign-owned establishments to be larger than that of U.S.-owned establishments, while only 27 percent was attributable to a tendency for foreign-owned establishments to be concentrated in industries with above-average plant scale.⁹ (The method used to decompose the difference in plant scale is described in the technical note at the end of this chapter.)

⁷ The analysis in this section is based on data for operating establishments only. Data for administrative and auxiliary establishments are not available by detailed industry for either foreign-owned or all U.S. establishments.

⁸ Because the number of manufacturing establishments is not shown in the Census Bureau's ASM publications, average plant scale for U.S.-owned establishments was computed using the total value added from the ASM and the number of U.S. manufacturing establishments shown in the Census Bureau's *County Business Patterns, 1990: United States* (Washington DC: U.S. Government Printing Office, 1992). Because the *County Business Patterns* and ASM data are closely comparable, use of *County Business Patterns* establishment counts is unlikely to have significantly affected the findings of the chapter.

The importance of the within-industry differences can be seen by examining the distribution of industries on the basis of the relative plant scale of foreign-owned and U.S.-owned establishments. As the following tabulation indicates, the average plant scale of foreign-owned establishments was more than 10 percent larger than that of U.S.-owned establishments in 277 of the 312 industries with 6 or more foreign-owned establishments (hereafter referred to as "the 312 industries"). In 98 of these 277 industries, plant scale of foreign-owned establishments was more than four times as large. Moreover, there were only 20 industries in which the average plant scale of foreign-owned establishments was more than 10 percent smaller than that of U.S.-owned establishments.⁹

Plant scale of foreign-owned establishments relative to that of U.S.-owned establishments	Number industries
All industries	312
At least 30 percent smaller	8
Between 10 and 30 percent smaller	12
Within 10 percent smaller or larger	15
Between 10 and 30 percent larger	12
At least 30 percent larger	265

Plant scale of foreign-owned establishments may be larger, on average, than that of U.S.-owned establishments at least partly because the income and other benefits that normally accrue to large plants may be sought out to offset the inherent disadvantages foreign investors tend to face when investing in the United States and when subsequently operating their U.S. businesses. Foreign investors may be unfamiliar with the language and the general business environment in the United States, and their investments must, at least to some extent, be managed from a distance. Many of the added costs a foreign investor incurs when making a new U.S. investment and subsequently operating a business here tend to be fixed, and foreign investors may tend to concentrate their investments in relatively large

⁹ The remaining difference was attributable to the interaction of the within-industry differences and industry-mix effects.

In industries with only a few foreign-owned establishments, value added per establishment and the other measures for foreign-owned establishments discussed in this section may be so affected by the special circumstances of individual establishments that they are not representative of foreign-owned establishments generally. Because of this possibility, the decomposition was limited to the 312 four-digit industries with at least 6 foreign-owned establishments. For these industries, value added per establishment was \$17.3 million for foreign-owned establishments and \$3.6 million for U.S.-owned establishments, a difference of \$13.7 million.

¹⁰ Across the 312 industries, the mean difference between the foreign-owned and U.S.-owned plant scale measures was \$11.0 million. Unlike the differences cited in the text and in footnote 9, which were computed using a method that gave heavier weight to the larger industries, this figure was computed without regard to industry size; a statistical test indicated that it was statistically significant at the 1-percent confidence level.

establishments as a means of spreading these costs over a larger volume of output. In some cases, such a strategy may also benefit foreign direct investors by simplifying the organizational structure, reducing the number of units that must be managed, and lowering the number of local business environments to which they must become acclimated.

Most industries with direct investment have both large foreign-owned and large U.S.-owned plants. However, in many of these industries, there are substantial numbers of small U.S.-owned plants but relatively few small foreign-owned plants. This pattern can be seen in "motor vehicles and car bodies" manufacturing (SIC 3711), which includes both car and truck manufacturing. In 1990, the average plant scale of foreign-owned establishments in the industry was over 60 percent larger than that of U.S.-owned establishments. Of the 406 plants in the industry, 385 were U.S. owned and 21 were foreign owned. Both groups had a number of large plants: 52 of the U.S.-owned plants and 11 of the foreign-owned plants had at least 1,000 employees. However, there were many small U.S.-owned plants but few small foreign-owned plants in the industry: Over three-fourths of the U.S.-owned plants, but less than one-fifth of the foreign-owned plants, had fewer than 100 employees.

Capital Intensity

For total manufacturing, capital intensity (indirectly measured as the non-employee-compensation share of value added) was higher for foreign-owned establishments than for U.S.-owned establishments—61 percent, compared with 55 percent.¹¹ Virtually all of this difference was attributable to industry-mix effects; within-industry differences were negligible.¹²

Although the capital intensity of foreign-owned establishments was not systematically higher or lower than that of U.S.-owned establishments within specific industries,¹³ in a large number of industries, as the following tabulation indicates, the capital intensity of foreign-owned establishments differed substantially from that of U.S.-owned establishments. On the one hand, the capital intensity of foreign-owned establishments was more than 10 percent higher than that of U.S.-owned establishments in 98 of the 312 industries. On the other hand, it was more than 10 percent lower in 85 industries.

¹¹ The data needed to measure capital intensity directly are not available.

¹² This statement is based on a decomposition similar to that used for plant scale (see technical note at the end of this chapter). The decomposition was based on data for the 312 industries. For these industries, the capital intensity measures for both foreign-owned and U.S.-owned establishments were almost the same as the corresponding measures for manufacturing as a whole.

¹³ Across the 312 industries, the mean difference between the foreign-owned and U.S.-owned capital-intensity measures was negligible.

Capital intensity of foreign-owned establishments relative to that of U.S.-owned establishments	Number of industries
All industries.....	312
At least 30 percent lower	26
Between 10 and 30 percent lower	59
Within 10 percent lower or higher	129
Between 10 and 30 percent higher	67
At least 30 percent higher	31

Compensation per Employee

For total manufacturing, compensation per employee of foreign-owned establishments was \$5,300 higher than that of U.S.-owned establishments—\$38,300, compared with \$33,000. About 60 percent of this difference was attributable to industry-mix effects, and 30 percent to within-industry differences.¹⁴

Although industry-mix effects dominate, within-industry differences are nonetheless significant. The positive contribution of these differences can be seen from the following tabulation. It shows that compensation per employee of foreign-owned establishments was more than 10 percent higher than that of U.S.-owned establishments in 131 of the 312 industries, whereas it was more than 10 percent lower in only 28 industries.¹⁵

Compensation per employee of foreign-owned establishments relative to that of U.S.-owned establishments	Number of industries
Total, all industries	312
At least 30 percent lower	3
Between 10 and 30 percent lower	25
Within 10 percent lower or higher	153
Between 10 and 30 percent higher	107
At least 30 percent higher	24

¹⁴ The remaining difference was attributable to the interaction of the within-industry differences and industry-mix effects. The decomposition was based on data for the 312 industries. For these industries, the difference in compensation per employee was \$4,600, somewhat smaller than the difference for manufacturing as a whole.

In "FDIUS: Establishment Data for 1987," differences between foreign-owned and U.S.-owned establishments were examined using payroll per employee, which is a somewhat narrower measure than total employee compensation. (Payroll excludes employee benefits, whereas total employee compensation includes them.) Data on total employee compensation were not available from the 1987 link data.

Within-industry differences were somewhat less important in explaining the overall difference in compensation per employee in the 1990 data than in explaining the overall difference in payroll per employee in the 1987 data. This result appears to largely reflect a narrowing of within-industry differences in payroll per employee between 1987 and 1990. In light of the 1990 data, within-industry differences in benefits per employee appear to be larger than within-industry differences in payroll per employee.

¹⁵ Across the 312 industries, the mean difference between foreign-owned and U.S.-owned establishments' compensation per employee was \$2,500. A statistical test indicated that this difference was significant at the 1-percent confidence level.

Compensation per employee may have been higher for foreign-owned establishments than for other establishments in the same industry because the occupational mix was weighted more heavily toward relatively high-skilled occupations, perhaps reflecting the use of different technologies.¹⁶ In addition, foreign-owned establishments may have paid higher wage rates at a given skill level than U.S.-owned establishments because, for example, they have a greater tendency to be located in high-wage areas.

Production-Worker Wage Rates

In examining differences in employee compensation between foreign-owned and U.S.-owned establishments, differences in occupational mix can be partly controlled for by comparing the wages of production workers only. Restricting the comparison in this way eliminates variations in the ratio of production workers to other workers as a source of differences in rates of pay; in addition, production workers probably constitute a more homogeneous group than other workers, who may represent a wide variety of occupational groups (for example, sales and clerical as well as professional and managerial employees).

For total manufacturing, the average hourly wage rate (excluding benefits) of production workers was \$12.57 for foreign-owned establishments and \$11.04 for U.S.-owned establishments, a difference of \$1.53. About 70 percent of this difference was attributable to industry-mix effects, and 20 percent was attributable to within-industry differences.¹⁷

Although industry-mix effects dominate, the first two columns of Table 7-3 show that within-industry differences are nonetheless significant. Hourly wages of production workers were more than 10 percent higher in foreign-owned establishments than in U.S.-owned establishments in 113 of the 312 industries, whereas they were at least 10 percent lower in only 43 industries.¹⁸

Data for selected industries in which the wage rates of foreign-owned establishments differed substantially from those of U.S.-owned establishments are shown in Table 7-12. Five of the industries in which wage rates of foreign-owned establishments were substantially

¹⁶ As noted in footnote 2, BLS has released information on the occupational structure of foreign-owned manufacturing establishments for 1989. Based on this information, BLS concluded that while the distribution of occupations in foreign-owned manufacturing establishments in the United States was little different from that in all U.S. manufacturing establishments at the overall manufacturing level, there were major differences in the distribution of occupations within individual industries, at least at the SIC two-digit level.

¹⁷ The remaining difference was attributable to the interaction of the within-industry differences and industry-mix effects. The decomposition was based on data for the 312 industries. For these industries, the hourly wage rate for foreign-owned establishments was \$1.26 higher than that for U.S.-owned establishments—\$12.69, compared with \$11.43.

Table 7-3
Relative Plant Scale and Capital Intensity:
Averages for Industries Grouped by the Wage
Rates of Foreign-Owned Establishments Relative
to Those of U.S.-Owned Establishments, 1990

Range of relative wage rates (percent) ¹	Number of industries	Percent	
		Relative plant scale ²	Relative capital intensity ³
All industries	312	376	102
At least 30 percent lower	2	118	147
Between 10 and 30 percent lower ...	41	226	95
Within 10 percent lower or higher ...	156	336	102
Between 10 and 30 percent higher ...	88	448	104
At least 30 percent higher	25	634	103
Addendum:			
Coefficient of correlation between the measure in the column and the relative wage rate ratio for the 312 industries			
	--	.336*	.0348

*Statistically significant at the 1-percent confidence level.

¹ Relative wage rates are foreign-owned establishments' wage rates divided by U.S.-owned establishments' wage rates times 100.

² Relative plant scale is foreign-owned establishments' value added per establishment divided by the corresponding measure for U.S.-owned establishments times 100. This column shows the unweighted averages of the relative scale measure for industries in the groups defined by the relative wage rates shown in the stub.

³ Relative capital intensity is foreign-owned establishments' non-employee-compensation share of value added divided by the corresponding measure for U.S.-owned establishments times 100. This column shows the unweighted averages of the relative capital intensity measure for industries in the groups defined by the relative wage rates shown in the stub.

lower than those of U.S.-owned establishments are motor-vehicle related: Vehicular lighting equipment; engine electrical equipment; motor vehicle parts and accessories; carburetors, pistons, rings, and valves; and motor vehicles and car bodies. The lower wage rates in these industries may have resulted because many of the foreign-owned establishments were established recently—within the last decade—and thus have a workforce with less accumulated job tenure than is typical of U.S.-owned establishments. They may also reflect lower rates of unionization among foreign-owned establishments and differences in plant location.

Plant scale.—The within-industry differences in wage rates partly reflect differences in plant scale. Across the 312 industries, the ratio of the wage rates of foreign-owned establishments to those of U.S.-owned establishments is significantly correlated with the ratio

of their average plant scales. In Table 7-3, the relative plant-scale ratio for foreign- and U.S.-owned establishments increases steadily as the ratio of their wage rates increases: The average ratio is 118 percent for the 2 industries in which the wage rates are at least 30 percent lower for foreign-owned establishments than for U.S.-owned establishments, and it is 634 percent for the 25 industries in which the wage rates are at least 30 percent higher for foreign-owned establishments. This pattern is consistent with other research that shows that production-worker wages tend to be higher at larger plants.¹⁹

This pattern is further illustrated in Table 7-12. Average plant scale of foreign-owned establishments was more than three times higher than that of U.S.-owned establishments in 15 of the 20 industries in which wage rates of foreign-owned establishments were substantially higher than those of U.S.-owned establishments. In contrast, it was more than three times that of U.S.-owned establishments in only 1 of the 17 industries in which wage rates of foreign-owned establishments were substantially lower than those of U.S.-owned establishments; in 4 of the 17 industries, average plant scale of foreign-owned establishments was smaller than that of U.S.-owned establishments.

Capital intensity.—Differences between the hourly wage rates of foreign-owned and U.S.-owned establishments were not associated with differences in their capital intensity. In Table 7-3, no discernable relationship between the relative wage and capital-intensity measures is evident. Furthermore, a statistical test indicated that the relative wage and capital-intensity measures were not significantly correlated.

Effect of foreign-ownership.—Differences between the hourly wage rates of foreign-owned and U.S.-owned establishments do not appear to be the result of foreign ownership per se. A regression that controlled for the effects of plant scale and capital intensity on wage rates and that incorporated a variable for foreign ownership indicated that there is no statistically significant relationship between foreign ownership and wage rates.²⁰

Labor Productivity

For total manufacturing, labor productivity (measured as value added per production-worker hour) of foreign-owned establishments was significantly higher than that of U.S.-owned establishments—\$74 per hour, compared with \$52 per hour.²¹ About 70 percent of the difference was attributable to industry-mix effects, and 20 percent to within-industry differences.²²

Examination of the distribution of industries on the basis of the relative productivity of foreign- and

¹⁸ Across the 312 industries, the mean difference between foreign-owned and U.S.-owned establishments' hourly wage rates was \$0.63. A statistical test indicated that this difference was significant at the 1-percent confidence level.

¹⁹ See, for example, Steve J. Davis and John Haltiwanger, "Wage Dispersion Between and Within U.S. Manufacturing Plants, 1963-1986," *Brookings Papers on Economic Activity*, Special Issue (1991): 115-80.

U.S.-owned establishments confirms that, although industry-mix effects dominate, within-industry differences are nonetheless important. In a significant number of industries, the productivity of foreign-owned establishments was higher than that of U.S.-owned establishments: It was more than 10 percent higher in 153 of the 312 industries (Table 7-4). In considerably fewer industries, the productivity of foreign-owned establishments was relatively low: It was at least 10 percent lower in only 70 industries.²³ In 89 industries, foreign-owned establishments' productivity was roughly equal to (within 10 percent of) that of U.S.-owned establishments.

Studies of productivity frequently indicate that plant scale, capital intensity, and employee skill level strongly influence productivity. The following discussion examines the extent to which these conventional factors explain the differences between the productivity of foreign-owned and U.S.-owned establishments.

Plant scale.—Differences between the productivity of foreign-owned and U.S.-owned establishments were highly correlated across industries with differences in plant scale (Table 7-4). This pattern can be seen by comparing the industries in which foreign-owned establishments' productivity was relatively low with the industries in which it was relatively high. In the

18 "lower productivity" industries, the average plant scale of foreign-owned establishments was only about 36 percent larger than that of U.S.-owned establishments. In contrast, in the 92 "higher productivity" industries, the average plant scale of foreign-owned establishments was more than six times that of U.S.-owned establishments.

This pattern is further illustrated in Table 7-13, which shows selected lower and higher productivity industries. In 7 of the 11 lower productivity industries, the average plant scale of foreign-owned establishments was smaller than that of U.S.-owned establishments. In contrast, in all but 2 of the 23 higher productivity industries, the average plant scale of foreign-owned establishments was at least twice as large as that of U.S.-owned establishments.

Capital intensity.—As discussed earlier, even though the capital intensity of foreign-owned establishments was not systematically higher or lower than that of U.S.-owned establishments within individual industries, the differences in the capital intensity of the two groups of establishments were sizable in a large number of industries. As Table 7-4 indicates, these differences are highly correlated with differences in productivity. Like the case of plant scale, as the productivity of foreign-owned establishments increases in relation to that of U.S.-owned establishments, the relative capital intensity of foreign-owned establishments also increases. The correlation between capital intensity and productivity reflects the tendency for additional capital to allow increased production when combined with a given amount of labor.

The correlation between differences in productivity and differences in capital intensity of foreign-owned and U.S.-owned establishments is particularly evident when the capital intensities of the two groups of establishments in lower and higher productivity industries are compared. In the lower productivity industries, the average capital intensity of foreign-owned establishments was only 58 percent of that of U.S.-owned establishments. In contrast, in the higher productivity industries, the average capital intensity of foreign-owned establishments exceeded that of U.S.-owned establishments by 21 percent. The data shown in Table 7-13 for selected lower and higher productivity industries further illustrate this pattern. In all of the lower productivity industries, foreign-owned establishments were less capital intensive than U.S.-owned establishments, whereas in all but one of the higher productivity industries, foreign-owned establishments were more capital intensive.

Employee skill level.—Differences in productivity of foreign-owned and U.S.-owned establishments

²⁰ A linear regression equation was estimated in which there were 624 observations (consisting of separate observations for foreign-owned and U.S.-owned establishments for each of the 312 industries). This estimation yielded the following:

$$W = 10.42 + 0.07 SC + 0.59 CI - 0.09 FDMY$$

(11.35) (0.90) (-0.43)

$$R^2 = 0.21,$$

$$F = 54.7$$

where W is hourly wages, SC is plant scale, CI is capital intensity, and FDMY is a dummy variable for foreign ownership. The t-statistics for the independent variables, which appear in parentheses, indicate that the coefficient of the scale variable was significant at the 1-percent confidence level and that the coefficients of both the capital intensity variable and the foreign-ownership dummy variable were insignificant.

²¹ Productivity can be measured in a variety of ways; the measure used here—value added per production-worker hour—is a commonly used measure of labor productivity and can be easily calculated from the data. Studies of productivity sometimes use total output (shipments plus inventory change) instead of value added in the numerator. However, when total output is used as a measure of production, the inputs to which output is related typically include not only labor employed within the establishment but also capital and the inputs that the establishment purchases from others (for example, materials or business services); data on some of these inputs are not available from the ASM. Furthermore, in attempting to determine whether foreign-owned establishments differ from U.S.-owned establishments, value added may be the preferred measure because it reflects only the production by the establishments themselves, whereas total output reflects, in addition to the establishments' own production, the value of inputs purchased from others.

²² The remaining difference was attributable to the interaction of the industry-mix effects and within-industry differences. The decomposition was performed for the 312 industries. For these industries, value added per production-worker hour was \$75 for foreign-owned establishments and \$55 for U.S.-owned establishments.

²³ Across the 312 industries, the mean difference between the foreign-owned and U.S.-owned productivity measures was \$8.19 per hour. A statistical test indicated that this difference was significant at the 1-percent confidence level.

were correlated with differences in the skill level of their employees (measured as compensation per employee); however, the correlation was not as high as the correlation for plant scale and for capital intensity.²⁴ In the lower productivity industries, the employee skill level of foreign-owned and U.S.-owned establishments was about the same, whereas in the higher productivity industries, the employee skill level of foreign-owned establishments was 18 percent higher than that of U.S.-owned establishments. Table 7-13 further illustrates the relationship between productivity and employee skill level. In 10 of the 11 lower productivity industries, the employee skill level of foreign-owned establishments was roughly equal to, or lower than, that of U.S.-owned establishments. In contrast, in 15 of the 23 higher productivity industries, the employee skill level of foreign-owned establishments was substantially higher than that of U.S.-owned establishments.

Combined effects.—The prior discussion showed that, when taken separately, differences in the plant scale, capital intensity, and employee skill level of foreign-owned and U.S.-owned establishments are each associated with differences in productivity. To determine whether a particular factor still independently contributes to the differences in productivity once the influence of each of the other factors is taken into account, the measures of relative plant scale, capital intensity, and employee skill level were included as independent variables in a multiple regression equation in which the relative productivity measure was the dependent variable. In addition to testing for the independent contribution of each of the three factors, the regression also provides an indication of their combined importance. The results confirmed that, even after allowing for the influence of the other measures, the relative plant scale, capital intensity, and employee skill level measures were each significantly correlated with the differences in productivity.²⁵ Furthermore, over 60 percent of the variation in the relative productivity measure could be accounted for by the combined variation in these three factors.

Effect of foreign ownership.—One additional statistical check was made to test directly whether foreign ownership per se was associated with higher productivity levels. This check involved estimating a multiple regression equation that controlled for the effects on productivity levels of plant scale, capital intensity, and employee skill level and that included a variable for foreign ownership. The test indicated that there was no correlation between productivity and foreign ownership per se.²⁶ Thus, any influence of foreign ownership on productivity appears to be mainly indirect: The plant scale, capital intensity, and employee

skill level of foreign-owned establishments differ from those of U.S.-owned establishments, and it is largely because of these differences that the productivity for foreign-owned establishments is higher.

Technical Note

This note describes the statistical decomposition method used in the chapter and discusses how the findings of the chapter are affected by the estimation of data for foreign-owned establishments and by the inclusion in the SIC of residual industries, which cover establishments not elsewhere classified.

Statistical Decomposition

The differences between foreign-owned and U.S.-owned establishments in average plant scale, capital intensity, compensation per employee, wages per production-worker hour, and productivity were decomposed statistically into industry-mix, within-industry, and interaction effects. The decomposition for a given

²⁵ Using the 312 industries as the observations, the estimation yielded the following:

$$RPR = -.89 + .02RSC + .01RCI + .01RES$$

(4.90) (15.67) (9.10)

$$R^2 = .61,$$

$$F = 163.7$$

where RPR, RSC, RCI, and RES are the measures of relative productivity, plant scale, capital intensity, and employee skill level, respectively. The t-statistics for the independent variables, which appear in parentheses, indicate that the coefficients for all of the variables were statistically significant at the 1-percent confidence level. The coefficients of correlation between the independent variables were as follows: Plant scale and capital intensity, 0.32; plant scale and employee skill level, 0.33; capital intensity and employee skill level, 0.04.

²⁶ A linear regression was estimated in which there were 624 observations (there were separate observations for foreign-owned and U.S.-owned establishments for each of the 312 industries). This estimation yielded the following:

$$PR = -133.81 + .19SC + 219.10CI + .0024ES - .15FDMY$$

(1.83) (19.95) (10.99) (-.04)

$$R^2 = .54,$$

$$F = 188.41$$

where PR, SC, CI, and ES are the measures of productivity, plant scale, capital intensity, and employee skill level, respectively, and FDMY is a dummy variable for foreign ownership. The t-statistics for the independent variables, which are shown in parentheses, indicate that the coefficients of both the capital intensity and employee skill level variables were significant at the 1-percent confidence level, that the coefficient of the scale variable was significant at the 10-percent confidence level, and that the coefficient of the foreign-ownership dummy was insignificant. To rule out the possibility that the regression results were influenced by errors in the measurement of capital intensity through the use of a proxy variable, tests controlling for this potential errors-in-variables problem using "instrumental variables" were conducted; the results of the tests suggested that such errors probably were not a problem.

²⁴ The compensation-per-employee measure of employee skill level (sometimes termed "human capital intensity") reflects both occupational structure and the accumulation of skills within occupations.

measure begins with expressing the measure as a weighted average of values for individual industries. For plant scale, for example, average plant scale (value added per establishment) may be expressed as a weighted average of the average plant scales in individual industries, with the weight for any given industry being the industry's share in the total number of establishments. Thus, the average plant scale for U.S.-owned establishments can be expressed as

$$\bar{p} = \sum_{i=1}^{312} s_i p_i$$

and the average plant scale of foreign-owned establishments can be expressed as

$$\bar{p}^a = \sum_{i=1}^{312} s_i^a p_i^a$$

where \bar{p} is average plant scale (value added per establishment) for the 312 industries (see footnote 9), p_i is plant scale for industry i , and s_i is the share of the i th industry in the total number of establishments for the 312 industries. (Variables with the superscript a denote data for foreign-owned establishments, and variables without a superscript denote data for U.S.-owned establishments.) The difference between average plant scales of the two groups of establishments can then be decomposed algebraically as

$$\begin{aligned} p^a - \bar{p} = & \sum_{i=1}^{312} p_i (s_i^a - s_i) + \sum_{i=1}^{312} s_i (p_i^a - p_i) + \\ & \sum_{i=1}^{312} (p_i^a - p_i) (s_i^a - s_i) \end{aligned}$$

The first term on the right side of the equation measures the effects of differences in industry mix; it is the difference in plant scale that would have resulted if, in each industry, plant scale were the same for foreign-owned establishments as for U.S.-owned establishments but if the differences in the distribution of the establishments by industry were as observed. The second term on the right side measures the effects of within-industry differences in plant scale; it is the difference in plant scale that would have resulted if foreign-owned establishments had the same distribution by industry as U.S.-owned establishments but if the differences in plant scale that existed in each industry were as observed. The third term reflects the interaction between these two effects.

A decomposition similar to this one was carried

out for each of the other measures discussed in the chapter.

Estimation of Nonsample Establishments

Data were estimated for foreign-owned establishments that were not selected for the 1990 ASM, which covered only a sample of all manufacturing establishments. For manufacturing as a whole, 17 percent of the shipments of foreign-owned establishments was estimated in 1990. Data for the nonsample foreign-owned establishments were estimated using industry-average relationships between employment and payroll, on the one hand, and the other items covered by the ASM, on the other. (Employment and payroll for all foreign-owned establishments were obtained from the Census Bureau's Standard Statistical Establishment List.) Because industry-average relationships were used as the basis for estimation, actual differences between foreign-owned and U.S.-owned establishments may not be the same as those observed in the data; in particular, both the total and the within-industry differences may be larger. To check this possibility, the productivity of foreign-owned and U.S.-owned establishments was compared using data only for those foreign-owned establishments that were reported in the ASM. This comparison indicated that both the total productivity difference and the within-industry difference are larger when only these data are used than when both the reported and estimated data are used. However, the significance of this result is difficult to assess because the foreign-owned establishments included in the ASM sample were much larger, on average, than the nonsample establishments, and, as discussed in the previous section, productivity tends to be higher in larger establishments.

Residual industries

The SIC includes some three- and four-digit industries that cover establishments not elsewhere classified. (An SIC code with the digit "9" appearing as the third or fourth digit usually designates such an industry.) These residual industries usually do not consist of homogeneous activity groups. For example, SIC 3699 ("Electrical machinery, equipment, and supplies, not elsewhere classified") includes, among other things, establishments that manufacture electric Christmas tree lights and establishments that manufacture particle accelerators. Because of this heterogeneity, the activities of foreign-owned and U.S.-owned establishments that are classified in such industries may differ significantly. These differences could, in turn, cause the within-industry differences that were observed in the data to be larger than if comparisons had been based only on industries in which activities were more homo-

geneous. To determine whether this was the case, the residual industries were excluded from the data, and the comparisons of the hourly wage rate and the productivity of foreign-owned and U.S.-owned establishments were repeated. Two different checks were made: In the first, only the 15 three-digit residual industries were excluded; in the second, both the three- and four-digit residual industries (a total of 53 industries) were excluded. In both the hourly wage rate and the productivity comparisons, excluding the residual industries had little effect on the results. Specifically, both the overall differences between foreign-owned and U.S.-owned establishments and the relative importance of the industry-mix effects and within-industry differences were nearly the same as those reported in the chapter. In addition, the distributions of foreign-owned and U.S.-owned establishments in terms of relative hourly wage rates and productivity were little changed from those discussed in the chapter.

Table 7-4.—Relative Plant Scale, Capital Intensity, and Employee Skill Level: Averages for Industries Grouped by the Productivity of Foreign-Owned Establishments Relative to That of U.S.-Owned Establishments, 1990

Range of relative productivity (percent) ¹	Number of industries	Percent		
		Relative plant scale ²	Relative capital intensity ³	Relative employee skill level ⁴
All Industries	312	376	102	109
At least 30 percent lower	18	136	58	103
Between 10 and 30 percent lower	52	208	85	98
Within 10 percent lower or higher	89	288	96	106
Between 10 and 30 percent higher	61	373	108	111
At least 30 percent higher	92	604	121	118
Addendum:				
Coefficient of correlation between the measure in the column and the relative productivity ratio for the 312 industries				
		.50*	.64*	.39*

* Statistically significant at the 1-percent confidence level.

1. Relative productivity is foreign-owned establishments' value added per production worker hour divided by the corresponding measure for U.S.-owned establishments times 100.

2. Relative plant scale is foreign-owned establishments' value added per establishment divided by the corresponding measure for U.S.-owned establishments times 100. This column shows the unweighted averages of the relative scale measure for industries in the groups defined by the relative productivity measure shown in the stub.

3. Relative capital intensity is foreign-owned establishments' non-employee-compensation share of value added divided by the corresponding measure for U.S.-owned establishments times 100. This column shows the unweighted averages of the relative capital intensity measure for industries in the groups defined by the relative productivity measure shown in the stub.

4. Relative employee skill level is foreign-owned establishments' compensation per employee divided by the corresponding measure for U.S.-owned establishments times 100. This column shows the unweighted averages of the relative employee skill level measure for industries in the groups defined by the relative productivity measure shown in the stub.

Table 7-5.—Selected Data for Foreign-Owned Manufacturing Establishments, by Industry, 1990

SIC code	Industry	Foreign-owned establishments				Foreign-owned establishments as a percentage of all U.S. establishments		
		Number of establishments	Number of employees	Millions of dollars		Employment	Value added	Shipments
				Value added	Shipments			
	Manufacturing	11,934	2,004,235	177,360.7	417,539.4	10.6	13.4	14.5
20	Food and kindred products	983	159,386	19,501.2	46,842.8	10.8	13.8	12.2
21	Tobacco products	5	H	(D)	(D)	(D)	(D)	(D)
22	Textile mill products	183	47,363	2,283.1	5,693.6	7.5	8.6	8.6
23	Apparel and other textile products	116	23,085	850.2	1,727.5	2.3	2.6	2.7
24	Lumber and wood products	184	17,043	842.5	2,304.0	2.5	2.9	3.1
25	Furniture and fixtures	83	J	(D)	(D)	(D)	(D)	(D)
26	Paper and allied products	328	48,644	4,709.2	11,395.2	7.7	7.9	8.7
27	Printing and publishing	834	103,983	10,408.8	16,499.9	6.8	10.1	10.5
28	Chemicals and allied products	1,520	242,392	48,835.7	87,678.9	28.4	31.9	30.4
29	Petroleum and coal products	319	25,638	4,106.8	46,372.6	22.9	15.1	26.9
30	Rubber and miscellaneous plastics products	658	120,951	8,757.9	17,790.6	13.9	17.6	17.5
31	Leather and leather products	29	6,362	287.3	608.1	5.4	6.3	6.2
32	Stone, clay, and glass products	1,421	105,578	8,450.2	16,407.5	20.7	24.8	25.9
33	Primary metal industries	402	119,087	10,297.6	31,902.9	16.7	19.3	21.8
34	Fabricated metal products	593	93,300	6,350.2	13,973.6	6.5	7.9	8.6
35	Industrial machinery and equipment	945	191,440	13,561.7	31,010.6	10.2	10.3	12.1
36	Electronic and other electric equipment	760	228,237	16,703.2	34,601.8	15.2	15.6	17.8
37	Transportation equipment	274	104,147	7,170.6	28,834.9	5.9	4.9	7.6
38	Instruments and related products	467	121,520	9,722.1	15,840.7	12.8	11.9	12.8
39	Miscellaneous manufacturing industries	128	26,087	1,929.3	3,553.2	6.8	9.6	9.6
	Administrative and auxiliary	1,702	200,064	n.a.	n.a.	15.9	n.a.	n.a.

D Suppressed to avoid disclosure of data of individual companies.

n.a. Not available.

NOTE.—Size ranges are given in employment cells that are suppressed. The size ranges are:

A—0 to 19; B—20 to 99; C—100 to 249; E—250 to 499; F—500 to 999; G—1,000 to 2,499; H—2,500 to 4,999; I—5,000 to 9,999; J—10,000 to 24,999; K—25,000 to 49,999; L—50,000 to 99,999; M—100,000 or more.

SIC Standard Industrial Classification

Table 7-6.—Selected Data for Foreign-Owned Manufacturing Establishments, by Country of UBO, 1990

Country	Number of establishments	Number of employees	Millions of dollars		Share of all-countries total (percent)			
			Value added	Value of shipments	Number of establishments	Number of employees	Value added	Value of shipments
All countries	11,934	2,004,235	177,360.7	417,539.4	100.0	100.0	100.0	100.0
Canada	1,538	269,362	26,869.2	58,983.3	12.9	13.4	15.1	14.1
Europe	8,007	1,297,424	115,466.1	251,039.0	67.1	64.7	65.1	60.1
Austria	27	5,035	417.1	816.2	.2	.3	.2	.2
Belgium	95	14,633	1,626.7	4,975.5	.8	.7	.9	1.2
Denmark	39	7,159	377.4	916.6	.3	.4	.2	.2
Finland	123	18,112	1,194.5	2,891.2	1.0	.9	.7	.7
France	1,217	178,324	15,390.3	36,168.0	10.2	8.9	8.7	8.7
Germany	1,045	229,007	20,442.5	40,568.9	8.8	11.4	11.5	9.7
Ireland	243	26,534	2,090.1	5,227.6	2.0	1.3	1.2	1.3
Italy	141	17,307	1,260.1	3,755.4	1.2	.9	.7	.9
Liechtenstein	9	917	50.9	120.7	.1	(*)	(*)	(*)
Luxembourg	25	5,003	307.2	664.3	.2	.2	.2	.2
Netherlands	618	123,424	11,648.1	34,800.9	5.2	6.2	6.6	8.3
Norway	53	5,771	463.9	933.8	.4	.3	.3	.2
Spain	20	399	26.5	65.7	.2	(*)	(*)	(*)
Sweden	347	73,818	4,969.9	10,760.5	2.9	3.7	2.8	2.6
Switzerland	697	133,934	14,829.4	27,440.4	5.8	6.7	8.4	6.6
United Kingdom	3,291	456,618	40,325.9	80,610.2	27.6	22.8	22.7	19.3
Other	17	1,429	45.5	323.0	.1	.1	(*)	.1
Latin America and Other Western Hemisphere	238	56,017	4,624.6	14,068.4	2.0	2.8	2.6	3.4
South and Central America	143	38,737	3,614.5	11,999.7	1.2	1.9	2.0	2.9
Brazil	9	358	22.9	77.3	.1	(*)	(*)	(*)
Mexico	64	J	(D)	(D)	.5	5-1.2	(D)	(D)
Panama	35	J	(D)	(D)	.3	5-1.2	(D)	(D)
Venezuela	31	6,684	1,123.1	7,532.0	.3	.3	.6	1.8
Other	4	174	15.5	27.4	0	(*)	(*)	(*)
Other Western Hemisphere	95	17,280	1,010.1	2,068.7	.8	.9	.6	.5
Africa	46	6,869	475.1	1,374.4	.4	.3	.3	.3
Middle East	67	I	(D)	(D)	.6	.2-5	(D)	(D)
Asia and Pacific	2,005	362,948	29,384.5	83,833.6	16.8	18.1	16.6	20.1
Australia	497	36,448	3,785.0	10,446.8	4.2	1.8	2.1	2.5
Hong Kong	3	C	(D)	(D)	(*)	(*)	(D)	(D)
Japan	1,356	291,415	22,814.6	65,760.0	11.4	14.5	12.9	15.7
Korea, Republic of	20	3,988	253.8	1,145.0	.2	.2	.1	.3
Malaysia	1	C	(D)	(D)	(*)	(*)	(D)	(D)
New Zealand	51	17,489	1,352.6	3,549.5	.4	.9	.8	.9
Philippines	13	H	(D)	(D)	.1	.1-2	(D)	(D)
Singapore	8	1,184	106.1	283.2	.1	.1	.1	.1
Taiwan	37	5,840	501.1	1,327.6	.3	.3	.3	.3
Other	19	G	(D)	(D)	.2	0-1	(D)	(D)
United States	33	H	(D)	(D)	.3	.2	(D)	(D)
Addenda:								
European Communities (12) ¹	6,735	L	(D)	(D)	56.4	2.5-5.0	(D)	(D)
OPEC ²	77	J	(D)	(D)	.6	.5-1.2	(D)	(D)

^D Suppressed to avoid disclosure of data of individual companies.
^{*} Less than 0.05 percent.

1. The European Communities (12) comprises Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, and the United Kingdom.

2. OPEC is the Organization of Petroleum Exporting Countries. Through 1992, its members were Algeria, Ecuador, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

NOTES.—The columns for number of establishments and for number of employees cover both

operating establishments and administrative and auxiliary establishments; the other columns cover operating establishments only.

Size ranges are given in employment cells that are suppressed. The size ranges are: A—0 to 19; B—20 to 99; C—100 to 249; E—250 to 499; F—500 to 999; G—1,000 to 2,499; H—2,500 to 4,999; I—5,000 to 9,999; J—10,000 to 24,999; K—25,000 to 49,999; L—50,000 to 99,999; M—100,000 or more.

UBO Ultimate beneficial owner

Table 7-7.—Value Added in Manufacturing Industries by All U.S. Establishments and by Foreign-Owned Establishments of Major Investing Countries, 1990

SIC code	Industry	All U.S. establishments	Foreign-owned establishments by country of UBO									U.S.-owned establishments
			All countries	Canada	France	Germany	Nether-lands	Switzer-land	United Kingdom	Japan	Other countries	
Millions of dollars												
	Manufacturing	1,326,361.7	177,360.7	26,869.2	15,390.3	20,442.5	11,648.1	14,829.4	40,325.9	22,814.6	25,040.8	1,149,001.0
20	Food and kindred products	140,972.8	19,501.2	2,108.1	1,175.4	445.6	2,949.6	3,913.7	5,821.8	786.0	2,301.0	121,471.6
21	Tobacco products	22,561.3	(D)	0	0	(D)	0	0	(D)	0	0	(D)
22	Textile mill products	26,541.6	2,283.1	507.6	195.2	264.9	37.7	48.1	693.1	246.9	289.8	24,258.5
23	Apparel and other textile products	33,034.0	850.2	(D)	(D)	129.4	(D)	0	186.8	(D)	(D)	32,183.8
24	Lumber and wood products	28,597.2	842.5	(D)	18.0	62.0	(D)	(D)	281.2	76.1	(D)	27,754.7
25	Furniture and fixtures	21,644.7	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
26	Paper and allied products	59,823.3	4,709.2	749.8	129.7	119.1	(D)	68.7	885.9	477.4	(D)	55,114.1
27	Printing and publishing	103,179.0	10,408.8	3,143.4	465.6	1,248.1	(D)	(D)	2,856.1	386.4	1,670.8	92,770.2
28	Chemicals and allied products	153,032.4	48,835.7	(D)	2,944.8	9,316.9	5,034.2	6,477.8	8,760.1	2,438.7	(D)	104,196.7
29	Petroleum and coal products	27,214.1	4,106.8	1,032.1	(D)	(D)	(D)	(D)	1,952.4	(D)	(D)	23,107.3
30	Rubber and miscellaneous plastics products	49,889.0	8,757.9	996.1	2,153.6	1,124.9	465.5	117.8	1,731.5	1,722.4	446.1	41,131.1
31	Leather and leather products	4,586.6	287.3	(D)	(D)	0	(D)	(D)	(D)	0	(D)	4,299.3
32	Stone, clay, and glass products	34,140.2	8,450.2	154.5	2,256.9	610.6	174.1	515.2	1,747.3	774.7	2,216.8	25,690.0
33	Primary metal industries	53,366.6	10,297.6	1,522.7	1,342.3	655.5	62.9	378.2	956.9	3,874.2	1,505.0	43,069.0
34	Fabricated metal products	79,951.9	6,350.2	877.0	(D)	685.9	(D)	231.0	1,917.2	426.4	962.3	73,601.7
35	Industrial machinery and equipment	132,165.8	13,561.7	501.8	799.3	1,739.4	187.9	689.8	2,612.0	2,947.5	4,084.0	118,604.1
36	Electronic and other electric equipment	106,983.9	16,703.2	2,399.1	901.9	2,273.6	(D)	714.8	2,549.6	4,333.1	(D)	90,280.7
37	Transportation equipment	146,916.3	7,170.6	801.0	723.5	330.2	26.9	(D)	1,131.1	3,183.2	(D)	139,745.7
38	Instruments and related products	81,665.6	9,722.1	1,355.6	390.6	1,271.3	(D)	1,068.3	3,314.9	780.1	(D)	71,943.5
39	Miscellaneous manufacturing industries	20,095.6	1,929.3	64.6	279.6	(D)	(D)	(D)	612.4	235.1	577.4	18,166.3
Percent of all U.S. establishments												
	Manufacturing	100.0	13.4	2.0	1.2	1.5	0.9	1.1	3.0	1.7	1.9	66.6
20	Food and kindred products	100.0	13.8	1.5	.8	.3	2.1	2.8	4.1	.6	1.6	86.2
21	Tobacco products	100.0	(D)	0	0	(D)	0	0	(D)	0	0	(D)
22	Textile mill products	100.0	8.6	1.9	.7	1.0	.1	.2	2.6	.9	1.1	91.4
23	Apparel and other textile products	100.0	2.6	(D)	(D)	.4	(D)	0	.6	(D)	(D)	97.4
24	Lumber and wood products	100.0	2.9	(D)	.1	.2	(D)	(D)	1.0	.3	(D)	97.1
25	Furniture and fixtures	100.0	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
26	Paper and allied products	100.0	7.9	1.3	.2	.2	(D)	.1	1.5	.8	(D)	92.1
27	Printing and publishing	100.0	10.1	3.0	.5	1.2	(D)	(D)	2.8	.4	1.6	89.9
28	Chemicals and allied products	100.0	31.9	(D)	1.9	6.1	3.3	4.2	5.7	1.6	(D)	68.1
29	Petroleum and coal products	100.0	15.1	3.8	(D)	(D)	(D)	(D)	7.2	(D)	(D)	84.9
30	Rubber and miscellaneous plastics products	100.0	17.6	2.0	4.3	2.3	.9	.2	3.5	3.5	.9	82.4
31	Leather and leather products	100.0	6.3	(D)	(D)	0	(D)	(D)	(D)	0	(D)	93.7
32	Stone, clay, and glass products	100.0	24.8	.5	6.6	1.8	.5	1.5	5.1	2.3	6.5	75.2
33	Primary metal industries	100.0	19.3	2.9	2.5	1.2	.1	.7	1.8	7.3	2.8	80.7
34	Fabricated metal products	100.0	7.9	1.1	(D)	.9	(D)	.3	2.4	.5	1.2	92.1
35	Industrial machinery and equipment	100.0	10.3	.4	.6	1.3	.1	.5	2.0	2.2	3.1	89.7
36	Electronic and other electric equipment	100.0	15.6	2.2	.8	2.1	(D)	.7	2.4	4.1	(D)	84.4
37	Transportation equipment	100.0	4.9	.5	.5	.2	(D)	(D)	.8	2.2	(D)	95.1
38	Instruments and related products	100.0	11.9	1.7	.5	1.6	(D)	1.3	4.1	1.0	(D)	88.1
39	Miscellaneous manufacturing industries	100.0	9.6	.3	1.4	(D)	(D)	(D)	3.0	1.2	2.9	90.4
Addendum:												
Total number of industries in which the UBO country's establishments have the highest share of value added among investing countries												
				2	3	0	0	0	10	4	1	

* Less than 0.05 percent.

^D Suppressed to avoid disclosure of data of individual companies.

UBO Ultimate beneficial owner

SIC Standard Industrial Classification

**Table 7-8.—Index of Relative Intensity of Production in Manufacturing for All Foreign-Owned Establishments
and for Establishments of Major Investing Countries, 1990**

SIC code	Industry	All countries	Canada	France	Germany	Netherlands	Switzerland	United Kingdom	Japan	Other countries
	Manufacturing	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
20	Food and kindred products	1.034	.738	.719	.205	2.382	2.483	1.358	.324	.865
21	Tobacco products	(^D)	0	0	(^D)	0	0	(^D)	0	0
22	Textile mill products .....	.643	.944	.634	.648	.162	.162	.859	.541	.578
23	Apparel and other textile products .....	.192	(^D)	(^D)	.254	(^D)	0	.186	(^D)	(^D)
24	Lumber and wood products .....	.220	(^D)	.054	.141	(^D)	(^D)	.323	.155	(^D)
25	Furniture and fixtures	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)	(^D)
26	Paper and allied products .....	.589	.619	.187	.129	(^D)	.103	.487	.464	(^D)
27	Printing and publishing .....	.754	1.504	.389	.785	(^D)	(^D)	.910	.218	.858
28	Chemicals and allied products	2.386	(^D)	1.658	3.950	3.746	3.786	1.883	.926	(^D)
29	Petroleum and coal products	1.129	1.872	(^D)	(^D)	(^D)	(^D)	2.360	(^D)	(^D)
30	Rubber and miscellaneous plastics products	1.313	.986	3.720	1.463	1.062	.211	1.142	2.007	.474
31	Leather and leather products .....	.468	(^D)	(^D)	0	(^D)	(^D)	(^D)	0	(^D)
32	Stone, clay, and glass products	1.851	.223	5.697	1.160	.581	1.350	1.683	1.319	3.439
33	Primary metal industries	1.443	1.408	2.168	.797	.134	.634	.590	4.220	1.494
34	Fabricated metal products .....	.594	.541	(^D)	.557	(^D)	.258	.789	.310	.638
35	Industrial machinery and equipment .....	.767	.187	.521	.854	.162	.467	.650	1.297	1.637
36	Electronic and other electric equipment	1.168	1.107	.727	1.379	(^D)	.598	.784	2.355	(^D)
37	Transportation equipment .....	.365	.269	.424	.146	.021	(^D)	.253	1.260	(^D)
38	Instruments and related products .....	.890	.819	.412	1.010	(^D)	1.170	1.335	.555	(^D)
39	Miscellaneous manufacturing industries .....	.718	.159	1.199	(^D)	(^D)	(^D)	1.002	.680	1.522

^D Suppressed to avoid disclosure of data of individual companies.

NOTE.—The Index is the share of total U.S. value added in the given manufacturing industry accounted for by establishments of the given UBO country divided by the share of total U.S. value added in total manufacturing accounted for by establishments of the UBO country. This

index is similar in form to the export index of revealed comparative advantage introduced in Bela Balassa, "Trade Liberalization and 'Revealed' Comparative Advantage," *Manchester School* 33 (May 1965): 99-123.

SIC Standard Industrial Classification

Table 7-9.—Selected Data for Foreign-Owned Manufacturing Establishments, by State, 1990

State	Foreign-owned establishments				Foreign-owned establishments as a percentage of all U.S. establishments		
	Number of establishments	Number of employees	Millions of dollars		Number of employees	Value added	Shipments
			Value added	Shipments			
Total	11,934	2,004,235	177,360.7	417,539.4	10.6	13.4	14.5
Alabama	185	33,678	3,019.5	6,661.1	9.2	14.1	13.7
Alaska	24	3,092	182.8	658.6	22.7	13.1	17.9
Arizona	115	10,998	747.2	2,002.9	6.1	6.3	8.8
Arkansas	106	17,881	1,225.5	3,262.6	8.2	9.8	10.7
California	1,361	205,024	18,533.9	42,051.9	9.7	12.4	14.3
Colorado	119	10,964	1,019.5	2,342.8	6.1	7.4	8.5
Connecticut	194	34,571	2,650.5	4,407.9	10.0	11.1	11.0
Delaware	69	30,386	1,658.0	4,339.9	46.2	36.7	33.6
District of Columbia	13	215	17.4	37.4	1.5	1.1	1.7
Florida	504	44,688	3,091.7	7,342.6	9.0	10.4	12.1
Georgia	491	70,347	6,926.8	13,730.2	12.5	19.2	16.3
Hawaii	30	2,087	275.7	1,218.0	10.1	17.7	29.0
Idaho	25	3,414	269.4	509.8	5.6	6.9	5.6
Illinois	649	110,468	8,684.1	25,260.4	11.0	12.3	16.1
Indiana	317	86,378	7,683.9	16,766.2	14.0	17.1	17.0
Iowa	106	22,359	1,863.0	3,631.8	9.7	9.6	7.9
Kansas	89	13,547	1,144.2	2,902.8	7.1	8.8	8.0
Kentucky	184	42,508	3,790.1	10,006.8	15.2	16.0	18.6
Louisiana	127	17,136	4,179.7	18,892.9	10.0	18.5	28.7
Maine	59	7,384	554.9	1,406.8	7.2	9.4	11.3
Maryland	196	27,941	2,232.4	4,859.0	13.2	14.2	15.8
Massachusetts	313	57,078	4,900.7	8,828.3	10.8	14.0	13.8
Michigan	396	70,914	5,300.0	14,368.9	7.8	8.2	9.4
Minnesota	174	31,983	1,813.5	4,009.6	8.1	7.0	7.3
Mississippi	110	13,706	1,109.5	2,582.0	5.9	8.7	8.5
Missouri	268	36,928	3,635.1	7,388.7	8.7	12.0	11.0
Montana	15	943	77.3	794.4	4.7	6.5	19.7
Nebraska	54	8,022	956.7	1,960.4	8.1	12.8	9.6
Nevada	27	1,501	123.6	244.7	5.9	8.4	8.4
New Hampshire	91	11,915	690.1	1,375.0	12.9	12.4	14.1
New Jersey	590	98,905	11,023.0	19,989.2	15.8	24.4	22.8
New Mexico	34	2,640	183.6	369.7	6.6	8.2	6.7
New York	650	104,499	9,528.6	18,845.2	9.1	11.1	12.2
North Carolina	483	110,447	10,682.9	21,147.8	13.3	18.5	18.2
North Dakota	7	F	(^D)	(^D)	(^D)	(^D)	(^D)
Ohio	644	118,364	9,888.5	26,449.0	10.9	12.3	14.9
Oklahoma	103	15,842	1,339.5	4,256.8	9.5	11.3	15.2
Oregon	119	15,269	1,071.7	3,313.9	7.1	8.1	10.7
Pennsylvania	667	119,688	9,511.1	20,216.7	11.9	14.8	14.8
Rhode Island	51	6,628	390.4	909.7	6.6	7.6	9.3
South Carolina	229	59,626	3,996.1	9,724.6	16.2	19.0	20.8
South Dakota	21	2,947	141.6	338.2	9.9	8.7	7.5
Tennessee	308	72,779	5,252.6	14,102.1	14.4	17.4	20.9
Texas	783	101,890	12,849.7	35,184.0	10.8	15.4	16.7
Utah	51	7,049	588.7	1,302.2	6.9	9.6	9.3
Vermont	26	3,657	224.7	490.1	8.3	7.0	8.8
Virginia	242	47,873	4,555.3	8,465.5	11.3	14.0	13.9
Washington	197	22,979	1,867.1	5,454.6	6.3	7.5	8.1
West Virginia	61	18,047	2,291.7	4,489.5	22.0	36.1	34.7
Wisconsin	249	46,016	3,551.0	8,520.9	8.4	9.6	10.3
Wyoming	8	C	(^D)	(^D)	(^D)	(^D)	(^D)

^D Suppressed to avoid disclosure of data of individual companies.

NOTES.—The columns for number of establishments and for number of employees cover both operating establishments and administrative and auxiliary establishments; the other columns cover operating establishments only.

Size ranges are given in employment cells that are suppressed. The size ranges are: A—0 to 19; B—20 to 99; C—100 to 249; E—250 to 499; F—500 to 999; G—1,000 to 2,499; H—2,500 to 4,999; I—5,000 to 9,999; J—10,000 to 24,999; K—25,000 to 49,999; L—50,000 to 99,999; M—100,000 or more.

Table 7-10.—Value Added by Foreign-Owned Manufacturing Establishments, State by Selected Industry, 1990

[Millions of dollars]

State	Total	Selected industries													
		Food and kindred products	Textile mill products	Paper and allied products	Printing and publishing	Chemicals and allied products	Petroleum and coal products	Rubber and miscellaneous plastics products	Stone, clay, and glass products	Primary metal industries	Fabricated metal products	Industrial machinery and equipment	Electronic and other electric equipment	Transportation equipment	Instruments and related products
		20	22	26	27	28	29	30	32	33	34	35	36	37	38
Total	177,360.7	19,501.2	2,283.1	4,709.2	10,408.8	48,835.7	4,106.8	8,757.9	8,450.2	10,297.6	6,350.2	13,561.7	16,703.2	7,170.6	9,722.1
Alabama	3,019.5	(P)	103.1	348.4	18.6	896.6	(P)	634.0	183.4	(P)	(P)	96.1	248.3	(P)	(P)
Alaska	182.8	(P)	0	(P)	0	(P)	0	0	0	0	(P)	0	0	0	0
Arizona	747.2	43.2	0	0	(P)	20.6	0	52.7	159.0	147.6	68.1	107.2	(P)	(P)	(P)
Arkansas	1,225.5	170.1	0	36.1	(P)	81.8	(P)	(P)	48.7	56.7	149.7	214.8	214.5	54.6	(P)
California	18,533.9	2,471.0	(P)	344.6	936.4	3,430.1	(P)	376.5	1,008.0	475.7	608.6	1,880.0	3,920.9	880.1	1,936.5
Colorado	1,019.5	210.3	0	(P)	140.5	107.8	(P)	(P)	85.1	(P)	(P)	100.6	64.1	0	57.1
Connecticut	2,650.5	163.2	32.3	15.8	141.4	973.5	10.6	18.8	80.2	207.4	122.7	206.6	102.0	(P)	248.0
Delaware	1,658.0	(P)	0	0	0	1,316.3	(P)	(P)	(P)	(P)	(P)	(P)	0	0	(P)
District of Columbia	17.4	0	0	0	(P)	0	0	0	(P)	0	0	0	0	0	0
Florida	3,091.7	645.4	0	(P)	164.5	225.5	(P)	72.0	400.2	84.3	78.8	300.4	497.4	147.3	128.7
Georgia	6,926.8	550.3	(P)	355.5	144.0	1,026.2	(P)	145.6	407.3	208.1	111.8	241.2	823.1	10.1	262.7
Hawaii	275.7	(P)	0	(P)	(P)	(P)	(P)	(P)	(P)	(P)	0	0	0	(P)	0
Idaho	269.4	125.4	0	0	(P)	6.3	0	0	0	0	0	0	(P)	0	0
Illinois	8,684.1	1,435.7	0	220.8	801.2	1,660.1	149.7	645.5	327.5	572.8	310.4	880.2	790.5	(P)	489.1
Indiana	7,683.9	1,025.4	(P)	(P)	330.3	893.5	3.6	534.8	(P)	1,758.2	335.8	780.9	634.5	224.8	654.7
Iowa	1,863.0	360.3	0	42.2	125.9	209.7	(P)	371.9	76.0	(P)	(P)	254.0	(P)	(P)	(P)
Kansas	1,144.2	195.6	0	(P)	172.6	128.3	(P)	(P)	124.6	(P)	13.3	87.9	(P)	(P)	(P)
Kentucky	3,790.1	527.9	(P)	(P)	95.3	739.1	(P)	(P)	168.8	814.6	146.0	189.1	85.4	(P)	0
Louisiana	4,179.7	261.2	(P)	(P)	(P)	1,855.7	(P)	10.7	38.3	0	(P)	(P)	(P)	(P)	0
Maine	554.9	95.8	0	265.6	(P)	(P)	(P)	43.7	(P)	(P)	12.2	23.8	(P)	(P)	0
Maryland	2,232.4	460.3	(P)	(P)	220.0	570.2	(P)	89.6	183.1	(P)	44.8	99.1	195.4	(P)	117.8
Massachusetts	4,900.7	218.3	111.9	141.1	501.6	446.5	(P)	151.1	(P)	201.0	276.5	827.5	530.2	78.0	504.8
Michigan	5,300.0	550.5	0	83.6	255.7	837.1	(P)	261.8	231.1	690.9	368.9	649.1	292.1	713.5	206.9
Minnesota	1,813.5	421.1	(P)	(P)	179.1	91.5	(P)	86.7	70.7	(P)	(P)	213.7	266.1	(P)	101.2
Mississippi	1,109.5	39.4	0	(P)	(P)	363.7	(P)	115.4	95.7	35.0	133.4	(P)	(P)	(P)	42.7
Missouri	3,635.1	900.9	(P)	102.5	81.9	1,108.7	(P)	63.3	187.3	307.2	200.8	161.3	149.5	(P)	129.6
Montana	77.3	(P)	0	0	0	(P)	(P)	(P)	(P)	(P)	(P)	0	0	0	0
Nebraska	956.7	363.8	0	0	(P)	401.1	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)	(P)
Nevada	123.6	43.3	0	0	0	(P)	0	(P)	32.6	19.5	0	0	0	0	(P)
New Hampshire	690.1	35.7	(P)	40.1	46.7	(P)	(P)	96.7	27.9	(P)	(P)	209.8	64.5	0	76.9
New Jersey	11,023.0	1,156.4	(P)	177.1	419.8	6,726.3	76.6	209.6	232.3	255.2	178.3	340.5	357.5	33.8	787.7
New Mexico	183.6	(P)	0	0	(P)	(P)	(P)	(P)	18.4	0	0	(P)	(P)	0	(P)
New York	9,528.6	1,069.9	52.9	182.0	2,707.7	1,813.4	(P)	495.7	293.1	373.8	332.1	595.3	798.2	136.2	441.2
North Carolina	10,682.9	290.1	489.5	141.4	160.2	4,886.5	(P)	562.4	295.7	160.9	235.7	525.6	1,894.0	191.3	528.2
North Dakota	(P)	(P)	0	0	(P)	0	0	0	0	0	0	0	0	(P)	0
Ohio	9,888.5	1,148.6	(P)	229.1	395.3	1,609.1	(P)	541.0	479.2	1,035.5	491.1	617.0	619.0	1,338.6	535.4
Oklahoma	1,339.5	89.0	0	(P)	47.6	195.5	(P)	430.0	123.6	(P)	102.3	87.4	(P)	(P)	61.1
Oregon	1,071.7	169.8	(P)	(P)	(P)	117.5	(P)	10.7	36.4	84.7	(P)	203.6	168.7	(P)	(P)
Pennsylvania	9,511.1	1,065.3	95.7	388.4	794.3	1,505.4	(P)	214.4	511.8	526.7	510.7	971.0	765.4	628.4	868.5
Rhode Island	390.4	(P)	(P)	0	45.5	(P)	(P)	38.4	(P)	(P)	15.9	21.7	46.8	0	83.5
South Carolina	3,996.1	273.7	328.7	(P)	37.5	1,017.6	(P)	771.1	174.3	(P)	85.8	558.6	389.1	(P)	(P)
South Dakota	141.6	73.7	0	0	(P)	(P)	0	(P)	(P)	0	(P)	32.1	(P)	0	0
Tennessee	5,252.6	228.0	155.0	88.5	144.3	1,585.5	(P)	375.2	227.7	213.6	267.4	551.9	392.7	564.2	188.2
Texas	12,849.7	509.1	0	40.0	303.0	7,594.0	458.5	315.0	625.4	505.3	330.6	477.2	1,114.6	84.3	381.9
Utah	588.7	25.1	(P)	0	0	20.2	0	0	24.1	(P)	(P)	(P)	32.6	(P)	(P)
Vermont	224.7	(P)	0	(P)	(P)	38.8	0	(P)	(P)	(P)	0	30.4	(P)	(P)	0
Virginia	4,555.3	281.1	(P)	(P)	173.0	2,361.0	0	304.8	192.5	(P)	33.0	295.8	282.2	201.0	80.3
Washington	1,867.1	406.1	(P)	250.1	31.9	134.3	(P)	47.6	153.7	71.3	(P)	23.8	177.2	(P)	(P)
West Virginia	2,291.7	0	0	(P)	(P)	1,435.2	(P)	(P)	84.9	485.6	109.8	(P)	(P)	0	(P)
Wisconsin	3,551.0	1,038.2	(P)	379.1	262.0	243.5	0	165.5	(P)	136.3	166.4	579.0	236.1	(P)	221.6
Wyoming	(P)	(P)	0	0	0	(P)	0	(P)	(P)	0	0	0	0	0	0

P Suppressed to avoid disclosure of date of individual companies.

NOTE.—Administrative and auxiliary establishments are excluded.

SIC Standard Industrial Classification

Table 7-11.—Value Added by Foreign-Owned Manufacturing Establishments as a Percentage of That by All U.S. Manufacturing Establishments, State by Selected Industry, 1990

State	Total	Selected industries													
		Food and kindred products	Textile mill products	Paper and allied products	Printing and publishing	Chemicals and allied products	Petroleum and coal products	Rubber and miscellaneous plastics products	Stone, clay, and glass products	Primary metal industries	Fabricated metal products	Industrial machinery and equipment	Electronic and other electric equipment	Transportation equipment	Instruments and related products
		20	22	26	27	28	29	30	32	33	34	35	36	37	38
SIC code															
Total	13.4	13.8	8.6	7.9	10.1	31.9	15.1	17.6	24.8	19.3	7.9	10.3	15.6	4.9	11.9
Alabama	14.1	(D)	6.5	11.0	2.7	43.6	(D)	52.5	39.4	(D)	(D)	7.2	26.1	(D)	(D)
Alaska	13.1	(D)	0	(D)	0	(D)	0	0	0	0	(D)	0	0	0	0
Arizona	6.3	5.9	0	0	(D)	3.9	0	23.5	45.3	22.1	19.0	13.3	(D)	(D)	(D)
Arkansas	9.8	7.0	0	2.2	(D)	11.3	(D)	(D)	20.8	13.0	14.3	23.2	21.1	10.2	(D)
California	12.4	13.5	(D)	11.5	7.9	49.8	(D)	8.2	27.2	23.5	7.9	10.1	21.6	3.8	12.9
Colorado	7.4	8.1	0	(D)	9.5	41.4	(D)	(D)	23.0	(D)	(D)	6.3	7.0	0	2.4
Connecticut	11.1	18.5	14.6	1.4	8.8	41.7	(D)	3.6	25.3	26.4	5.2	7.3	5.8	(D)	11.8
Delaware	36.7	(D)	0	0	0	74.4	(D)	(D)	(D)	(D)	(D)	(D)	0	0	(D)
District of Columbia	1.1	0	0	0	(D)	0	n.a.	(D)	(D)	0	0	0	0	0	0
Florida	10.4	14.6	0	(D)	4.8	8.8	(D)	8.0	35.2	31.5	5.8	19.6	11.1	6.3	4.4
Georgia	19.2	12.3	(D)	10.1	8.2	34.9	(D)	13.0	37.4	17.4	10.9	16.0	32.8	0.2	41.1
Hawaii	17.7	(D)	0	(D)	(D)	(D)	(D)	(D)	(D)	(D)	0	0	0	(D)	0
Idaho	6.9	13.4	0	0	(D)	1.2	0	0	0	0	0	(D)	(D)	0	0
Illinois	12.3	14.2	0	8.3	11.0	20.4	15.2	18.3	25.0	17.2	5.1	8.4	11.4	(D)	20.1
Indiana	17.1	28.7	(D)	(D)	16.2	13.5	0.6	22.9	(D)	28.3	10.9	19.7	19.7	3.5	36.8
Iowa	9.6	7.2	0	10.5	10.0	10.5	(D)	43.7	21.4	(D)	(D)	6.4	(D)	(D)	(D)
Kansas	8.8	9.5	0	(D)	9.4	9.1	(D)	(D)	30.9	(D)	3.7	6.7	(D)	(D)	(D)
Kentucky	16.0	27.8	(D)	(D)	6.4	29.2	(D)	(D)	28.7	57.8	13.6	8.4	4.8	(D)	0
Louisiana	18.5	14.7	(D)	(D)	(D)	19.8	(D)	5.1	17.4	0	(D)	(D)	(D)	(D)	0
Maine	9.4	25.9	0	14.8	(D)	(D)	(D)	18.6	(D)	(D)	6.2	10.5	(D)	(D)	0
Maryland	14.2	19.9	(D)	(D)	12.1	28.3	(D)	20.1	45.1	(D)	7.1	10.6	27.3	(D)	5.5
Massachusetts	14.0	13.0	15.2	9.9	13.6	29.4	(D)	9.9	(D)	22.5	12.5	16.0	10.5	4.6	8.7
Michigan	8.2	10.6	0	4.8	8.9	17.5	(D)	9.4	17.8	24.7	5.8	8.4	22.1	3.3	15.2
Minnesota	7.0	11.4	(D)	(D)	6.3	9.0	(D)	10.6	8.0	(D)	(D)	4.8	15.0	(D)	4.8
Mississippi	8.7	3.5	0	(D)	(D)	35.6	(D)	18.1	30.6	9.6	20.6	(D)	(D)	(D)	44.7
Missouri	12.0	19.3	(D)	9.5	3.6	25.5	(D)	7.8	25.1	36.1	9.0	9.9	8.2	(D)	18.1
Montana	6.5	(D)	0	0	0	(D)	(D)	(D)	(D)	(D)	(D)	0	0	0	0
Nebraska	12.8	13.6	0	0	(D)	72.3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Nevada	8.4	27.9	0	(D)	0	(D)	0	(D)	24.4	22.3	0	0	0	0	(D)
New Hampshire	12.4	9.7	(D)	10.6	8.4	(D)	(D)	27.2	20.5	(D)	(D)	24.3	10.2	0	8.3
New Jersey	24.4	25.2	(D)	11.5	9.4	46.7	10.4	12.6	19.2	23.8	7.7	13.2	12.5	4.6	22.3
New Mexico	8.2	(D)	0	0	(D)	(D)	(D)	(D)	16.0	0	0	(D)	(D)	0	(D)
New York	11.1	17.5	7.0	8.1	16.3	24.5	(D)	25.7	19.3	20.7	9.6	7.5	10.6	2.8	3.1
North Carolina	18.5	8.8	6.6	6.7	11.6	59.2	(D)	23.8	21.0	22.5	14.1	11.6	41.1	14.9	45.7
North Dakota	(D)	(D)	0	0	(D)	0	0	0	0	0	0	0	0	(D)	0
Ohio	12.3	16.4	(D)	10.0	9.4	21.6	(D)	12.6	16.1	14.5	5.8	6.4	10.5	9.2	28.5
Oklahoma	11.3	9.6	0	(D)	7.7	42.7	(D)	37.2	18.3	(D)	10.3	4.4	(D)	(D)	10.7
Oregon	8.1	9.3	(D)	(D)	(D)	37.5	(D)	3.7	14.9	10.0	(D)	15.9	20.2	(D)	(D)
Pennsylvania	14.8	14.1	11.2	12.2	13.5	21.0	(D)	9.9	18.0	9.4	9.9	16.4	15.8	16.8	30.6
Rhode Island	7.6	(D)	(D)	0	13.4	(D)	(D)	16.6	(D)	(D)	2.5	8.1	11.3	0	15.0
South Carolina	19.0	31.2	9.1	(D)	7.1	22.3	(D)	52.0	23.7	(D)	8.8	27.0	32.6	(D)	(D)
South Dakota	8.7	17.6	0	0	(D)	(D)	0	(D)	(D)	0	(D)	10.7	(D)	0	0
Tennessee	17.4	6.0	18.3	5.4	7.5	31.0	(D)	22.4	27.4	17.8	15.2	22.6	21.7	29.3	26.2
Texas	15.4	6.2	0	1.8	7.5	36.9	5.3	11.2	30.4	23.6	8.8	7.4	14.4	1.4	9.0
Utah	9.6	4.2	(D)	0	(D)	9.1	0	0	14.9	(D)	(D)	(D)	10.5	(D)	(D)
Vermont	7.0	(D)	0	(D)	(D)	(D)	0	(D)	(D)	(D)	0	15.4	(D)	(D)	0
Virginia	14.0	10.0	(D)	(D)	8.0	54.3	0	23.3	28.0	(D)	3.5	20.3	17.3	6.6	4.8
Washington	7.5	18.2	(D)	13.6	3.0	8.8	(D)	12.3	29.2	6.1	(D)	1.7	31.1	(D)	(D)
West Virginia	36.1	0	0	(D)	(D)	55.9	(D)	(D)	19.1	42.1	30.7	(D)	(D)	0	(D)
Wisconsin	9.6	21.3	(D)	7.8	10.5	15.1	0	12.5	(D)	11.3	5.3	8.0	8.0	(D)	11.4
Wyoming	(D)	(D)	n.a.	n.a.	0	(D)	0	(D)	(D)	0	0	0	0	0	0

(D) Suppressed to avoid disclosure of data of individual companies.
n.a. Not applicable.

NOTE.—Administrative and auxiliary establishments are excluded.
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Table 7-12.—Production Worker Hourly Wage Rates for Foreign-Owned and U.S.-Owned Establishments, Selected Industries in Which Wage Rates of Foreign-Owned Establishments Were Relatively Low or High, 1990

SIC code	Industry	Wages per hour (dollars)		Relative wage rate (percent) ¹	Addendum: Relative plant scale (percent) ²
		Foreign-owned establishments	U.S.-owned establishments		
	Industries in which foreign-owned establishments had relatively low hourly wage rates:				
3647	Vehicular lighting equipment	10.38	15.85	65	109
3694	Engine electrical equipment	8.30	11.86	70	127
3721	Aircraft	12.07	17.17	70	26
2711	Newspapers	8.93	12.52	71	96
3714	Motor vehicle parts and accessories	11.50	16.14	72	148
3624	Carbon and graphite products	10.53	14.27	74	113
3592	Carburetors, pistons, rings, valves	11.56	14.83	78	170
2431	Millwork	7.96	9.92	80	385
3711	Motor vehicles and car bodies	16.74	20.84	80	161
3661	Telephone and telegraph apparatus	12.07	14.93	81	297
3663	Radio and television communications equipment	9.94	12.10	82	175
2095	Roasted coffee	10.76	13.01	83	162
2631	Paperboard mills	14.03	16.88	83	76
2296	Tire cord and fabrics	8.43	10.12	83	39
3255	Clay refractories	10.70	12.77	84	225
3531	Construction machinery	12.88	15.26	84	219
3951	Pens and mechanical pencils	8.32	9.86	84	222
	Industries in which foreign-owned establishments had relatively high hourly wage rates:				
3532	Mining machinery	13.05	10.39	126	360
2064	Candy and other confectionery products	12.00	9.54	126	357
3251	Brick and structural clay tile	10.40	8.22	127	165
3082	Unsupported plastics profile shapes	11.87	9.36	127	439
2851	Paints and allied products	14.35	11.27	127	416
3398	Metal heat treating	13.73	10.75	128	431
2045	Prepared flour mixes and doughs	13.48	10.55	128	503
2836	Biological products except diagnostic	10.21	7.98	128	1,026
2325	Men's and boys' trousers and slacks	8.27	6.39	130	120
3651	Household audio and video equipment	10.40	7.97	130	1,474
2833	Medicinals and botanicals	21.43	16.41	131	98
3087	Custom compound purchased resins	12.24	9.31	131	187
2085	Distilled and blended liquors	15.89	11.92	133	187
3295	Minerals, ground or treated	13.59	10.16	134	324
3965	Fasteners, buttons, needles, and pins	9.63	7.15	135	831
2816	Inorganic pigments	17.01	12.54	136	703
3291	Abrasive products	14.84	10.70	139	817
3645	Residential lighting fixtures	10.49	7.51	140	606
3596	Scales and balances, except laboratory	11.25	7.87	143	686
3088	Plastics plumbing fixtures	13.10	7.53	174	1,032

1. Hourly wage rate for foreign-owned establishments divided by hourly wage rate for U.S.-owned establishments times 100.

2. Value added per establishment for foreign-owned establishments divided by value added per establishment for U.S.-owned establishments times 100.

NOTE.—The list of industries in this table excludes industries for which the data for foreign-owned establishments are suppressed. It also excludes residual industries, which cover establishments not elsewhere classified.

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Table 7-13.—Productivity, Plant Scale, Capital Intensity, and Employee Skill Level of Foreign-Owned and U.S.-Owned Establishments, Selected Industries in Which the Productivity of Foreign-Owned Establishments Was Relatively Low or High, 1990

SIC code	Industry	Foreign-owned establishments				U.S.-owned establishments				Foreign-owned establishments relative to U.S.-owned establishments (percent)			
		Productiv- ity (dollars) ¹	Plant scale (millions of dollars) ²	Capital in- tensity (percent) ³	Employee skill level (dollars) ⁴	Productiv- ity (dollars) ¹	Plant scale (millions of dollars) ²	Capital in- tensity (percent) ³	Employee skill level (dollars) ⁴	Product- ivity	Plant scale	Capital intensity	Empley- ee skill level
	Industries in which foreign-owned establishments had relatively low productivity:												
2296	Tire cord and fabrics	20.1	13.4	28	23,786	66.2	34.3	73	28,535	30	39	38	83
3721	Aircraft	30.8	30.5	12	43,176	76.8	115.6	31	48,834	40	26	41	88
3844	X-ray apparatus and tubes	56.3	15.6	36	45,010	119.8	18.7	67	44,245	47	83	53	102
2911	Petroleum refining	123.8	61.0	67	56,727	248.2	69.5	85	55,053	50	88	79	103
3295	Minerals, ground or treated	37.8	6.6	28	49,584	75.0	2.0	75	26,492	50	324	37	187
2833	Medicinals and botanicals	105.6	10.4	61	48,543	200.4	10.6	81	46,583	53	98	76	104
3724	Aircraft engines and engine parts	43.7	10.9	33	41,474	82.7	27.9	50	47,121	53	39	66	88
3692	Primary batteries, dry and wet	28.8	7.2	31	26,222	51.4	9.8	61	30,728	56	73	52	85
3711	Motor vehicles and car bodies	62.0	151.6	52	47,037	104.3	94.3	66	60,373	59	161	80	78
3643	Current-carrying wiring devices	29.1	10.8	31	30,621	43.7	6.2	53	28,840	67	173	60	106
3524	Lawn and garden equipment	43.8	48.6	65	24,195	63.7	9.7	67	29,451	69	502	96	82
	Industries in which foreign-owned establishments had relatively high productivity:												
3555	Printing trades machinery	92.2	23.8	68	34,815	59.5	3.3	36	41,234	155	722	188	84
2033	Canned fruits and vegetables	82.7	35.5	79	27,591	52.3	9.1	70	26,491	158	389	113	104
3291	Abrasive products	85.0	28.0	58	48,695	53.1	3.4	54	34,351	160	817	107	142
3563	Air and gas compressors	104.0	17.0	55	45,572	62.9	7.3	44	39,642	165	234	125	115
2096	Potato chips and similar snacks	114.0	32.1	76	36,432	66.0	8.0	69	26,683	173	400	110	137
3594	Fluid power pumps and motors	86.9	15.1	56	40,044	49.4	5.6	37	39,663	176	269	149	101
3567	Industrial furnaces and ovens	66.8	4.4	46	39,474	37.0	2.4	30	32,519	180	181	153	121
2035	Pickles, sauces, and salad dressings	163.0	35.7	86	35,742	89.7	7.4	79	28,091	182	483	109	127
2041	Flour and other grain mill products	107.6	17.8	76	42,475	57.5	3.0	62	35,627	187	585	123	119
2834	Pharmaceutical preparations	417.4	153.6	78	54,215	220.7	33.7	80	43,629	189	456	98	124
3873	Watches, clocks, watchcases, and parts	75.5	17.6	69	30,140	38.9	2.8	55	28,879	194	625	125	104
3398	Metal heat treating	74.4	7.8	54	40,478	38.0	1.8	46	33,270	196	431	118	122
2034	Dehydrated fruits, vegetables, soups	84.1	33.5	78	30,788	42.0	6.2	59	27,299	200	542	132	113
2241	Narrow fabric mills	42.0	12.9	68	25,025	20.9	2.3	42	21,377	201	562	161	117
2836	Biological products except diagnostic	129.2	23.3	66	37,209	64.3	2.3	55	36,677	201	1,026	120	101
2032	Canned specialties	161.2	30.5	86	31,089	80.1	15.7	77	30,766	201	194	112	101
2045	Prepared flour mixes and doughs	144.0	37.0	84	36,583	68.5	7.4	68	31,615	210	503	123	116
2731	Book publishing	689.4	34.4	80	36,563	291.4	3.8	73	37,424	237	912	110	98
3088	Plastics plumbing fixtures	88.6	22.8	73	35,482	35.1	2.2	52	23,809	252	1,032	140	149
3821	Laboratory apparatus and furniture	134.0	25.6	55	45,506	52.8	3.7	43	34,375	254	692	128	132
3743	Railroad equipment	112.6	25.1	62	37,331	41.4	9.2	34	39,208	272	274	182	95
2816	Inorganic pigments	257.2	54.8	84	49,606	93.9	7.8	71	39,586	274	703	119	125
2411	Logging	87.1	8.0	80	33,712	31.5	.3	51	24,895	276	2,352	156	135

1. Value added per production worker hour.

2. Value added per establishment.

3. Non-employee-compensation share of value added.

4. Compensation per employee.

NOTE.—The industries with relatively low productivity for foreign-owned establishments shown in this table are the industries in which the productivity of foreign-owned establishments was at least 30 percent lower than that

of U.S.-owned establishments and that (1) had at least six foreign-owned establishments, (2) were not suppressed for foreign-owned establishments, and (3) were not residual industries (see "Technical Note" in the article). The industries with relatively high productivity for foreign-owned establishments shown in this table are the industries in which the productivity of foreign-owned establishments was at least 50 percent higher than that of U.S.-owned establishments and that (1) had at least six foreign-owned establishments, (2) were not suppressed for foreign-owned establishments, and (3) were not residual industries (see "Technical Note").

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Occupational Employment in Foreign-Owned Manufacturing Establishments in the United States

by Stephan A. Lang*

In October of 1993, the Bureau of Labor Statistics (BLS) released the first set of data that provided the occupational breakdown of employment in foreign-owned manufacturing establishments in the United States.¹ Overall, the occupational distribution of employment in foreign-owned manufacturing establishments was very similar to the occupational distribution in all U.S. manufacturing establishments. There were small differences in some major occupational groups but these can largely be explained by differences in industry mix between foreign-owned and all U.S. establishments. Larger, more significant differences in occupational distribution existed at the 2-digit and 3-digit SIC industry level and by country of ultimate beneficial owner where industry mix also had some impact.

Staffing Differences

The occupational data that were produced for all foreign-owned manufacturing establishments for 1989 largely reflect a high degree of foreign investment in industries that require highly skilled professional work-

ers. The occupational distribution showed that, on average, foreign-owned firms in the manufacturing sector employed a slightly larger proportion of their workforce in the "professional, paraprofessional, and technical workers"² major occupational group than all U.S. manufacturing firms. (See Figure 8-1 and Table 8-1.)

- Professional and related workers accounted for 13.7 percent of workers in foreign-owned manufacturing establishments, compared with 12.2 percent in all U.S. manufacturing.
- In foreign-owned manufacturing firms, 63.9 percent of the workforce was employed in production occupations,³ compared with 65.1 percent in all manufacturing firms.
- In the other major occupational groups--managerial and administrative workers, sales and related workers, clerical and administrative support workers, service workers, and agriculture and related workers--distributional differences were less than half a percentage point at the national aggregate level.

The tendency of foreign-owned firms to employ a larger proportion of professional workers than all U.S. manufacturing firms can be attributed to (1) foreign-owned firms tend to have a higher professional share of employees than all firms in an individual industry (a

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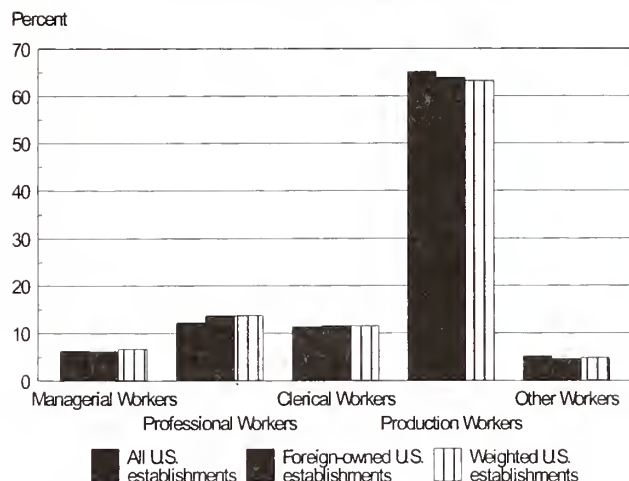
¹ "New Research on Occupations in Foreign-Owned Manufacturing Establishments in the United States," U.S. Department of Labor, Bureau of Labor Statistics, News Release USDL-93-455, October 27, 1993. These data were the result of the data-link project undertaken by BLS in cooperation with the Bureau of Economic Analysis (BEA). In the data-link project, BLS developed employment and wage data for foreign direct investment in all industry divisions, by matching BLS establishment data from the Covered Employment and Wages (ES-202) Program with lists of enterprises from the BEA Annual Survey of Foreign Direct Investment in the United States. In 1992, BLS released employment and wage data, which were the result of this link, for the fourth quarters of 1989 and 1990. Occupational employment data on foreign-owned U.S. manufacturing establishments were developed by linking the employment and wage data set of foreign-owned establishments with data from BLS' 1989 Occupational Employment Statistics (OES) Survey, which covered manufacturing.

Data based on the 1989 OES survey were analyzed for seven major occupational groups: Managerial and administrative occupations; professional, paraprofessional, and technical occupations; sales and related occupations; clerical and administrative support occupations; service occupations; production, construction, operating, maintenance and material handling occupations; and agriculture, forestry, fishing, and related occupations. The OES survey uses the Occupational Employment Statistics classification system which is comparable with the 1980 *Standard Occupational Classification Manual*.

² The major occupational group of professional, paraprofessional, and technical workers will hereinafter be referred to as "professional and related" or "professional" workers and occupations. This group contains workers concerned with the theoretical or practical aspects of such fields as science, art education, law, and business relations where substantial post secondary educational preparation, or equivalent training or experience are required. Fields included in this group include general management support, engineering and scientific, data processing and mathematical, social sciences, and medicine and health.

³ The major occupational group of production, construction, operating, maintenance, and material handling occupations will be referred to as "production workers" or "production occupations". This group contains skilled, semiskilled and unskilled workers performing precision, machine and manual tasks involving production, construction, operating, maintenance, repair, and material handling operations.

Figure 8-1
Major Occupational Group: Percent of Employment in All U.S. and Foreign-owned U.S. Establishments, 1989



staffing characteristic), and (2) they tend to invest in industries having a higher than average share of professional workers (an industry composition characteristic).

Foreign-owned firms had a higher share of professional workers than all U.S.-owned firms in a small majority of the individual manufacturing industries at both the 18 2-digit and 91 3-digit SIC industry level for which data are available (Table 8-2 and Table 8-3).⁴ However, this share is probably not large enough to claim a strong tendency of foreign-owned firms to nearly always have a higher professional share of workers.

Most of the difference between the professional workers' share of total employment in the foreign-

owned firms (13.7 percent) and that in all U.S. firms (12.2 percent) can be accounted for by differences in employment patterns in individual industries. When the industry weights of all U.S. industries are reweighed using the shares of foreign-owned firms, the shares of professional workers in the two groups are equal—at 13.7 percent (columns 4 and 5 of Table 8-1, and Figure 8-1).

Differences between foreign-owned and all U.S. establishments are highlighted by categorizing the individual industry employment data according to (1) whether the foreign-owned firms' share of total employment in each industry was higher or lower than the average for all manufacturing industries (a concentration measure for foreign-owned firms), and (2) whether, regardless of ownership, an industry employs a higher or lower than average share of professional employees (a concentration measure for professional employees).

At the 2-digit SIC level, a majority of the industries (11 out of 18 for which data are available) had a lower than average share of professional workers (Table 8-3). The data indicate that foreign-owned firms tended

Table 8-2
Professional Employment Shares: Comparison of Foreign-Owned with All U.S. Manufacturing Firms (Number of Industries)

	2-digit level	3-digit level
Foreign-owned firms' share—		
Higher	11	51
Lower	7	40
Not available or equal share ...	2	49
Total	20	140

⁴Data for 2 of the 20 2-digit SIC and 49 of the 140 3-digit SIC industries are not available.

Table 8-1
Private Manufacturing Industry by Major Occupational Group: Employment in all United States and in Foreign-owned United States Establishments, 1989

Types of workers	Actual Employment in U.S. establishments				Reweighed all U.S. Percent*
	All U.S.		Foreign-owned		
	Total	Percent	Total	Percent	
All occupations	19,513,080	100.0	1,696,490	100.0	100.0
Managerial and administrative	1,225,770	6.3	105,420	6.2	6.7
Professional, paraprofessional and technical	2,381,710	12.2	233,230	13.7	13.7
Sales & related	619,680	3.2	52,600	3.1	3.1
Clerical & administrative support.....	2,206,230	11.3	195,190	11.5	11.5
Service	285,300	1.5	23,450	1.4	1.5
Production & related	12,702,030	65.1	1,083,760	63.9	63.2
Agriculture, forestry, fishing & related...	92,360	0.5	2,130	0.1	0.2

*Reweighed with same industry weights as foreign-owned firms.

Detail may not add to totals due to rounding.

to invest in industries with a higher than average professional share of workers (4 out of 7 industries). In contrast, foreign-owned firms in industries with a lower than average share of professional workers (7 out of 11) had a lower than average share of total employment.

This tendency of foreign-owned firms to invest in industries with higher shares of professional workers is supported by data at the 3-digit SIC industry level, even though data for a large proportion of the industries is not reported. In a very large majority of the industries with higher than average shares of professional employees, foreign-owned firms had a higher than average share of total employment (Figure 8-2). In a slight majority (about 55 percent) of the industries with lower than average shares of professional employees, foreign-owned firms had lower than average shares of total employment.

Differences within Manufacturing Groups

The differences in occupational distribution between foreign-owned firms and all U.S. firms at the aggregate manufacturing level are very small, and can be explained almost entirely by the distribution of foreign direct investment among industries. However, among the individual manufacturing industries at the 2-digit SIC industry level, there are significant staffing differences between foreign-owned and U.S.-owned businesses in some industries.

These differences in staffing are reflected in the following grouping of the 20 2-digit SIC manufacturing industries according to the differences between foreign-owned and all U.S. establishments in their shares of professional workers and production workers.

- In 9 industries in which foreign-owned firms had higher professional shares and lower production shares, the differences between the occupational patterns in foreign-owned firms and all U.S. firms in these industries are all very small. Moreover, the levels of foreign investment in most of these industries are low.
- In two industries foreign-owned establishments had slightly higher proportions of employment in both production and professional occupations than did U.S.-owned manufacturing.

Figure 8-2
Array of 3-Digit SIC Manufacturing Industries, by Professional Workers' Share of Total Industry Employment, and by Foreign-Owned Firms' Share of Total Industry Employment

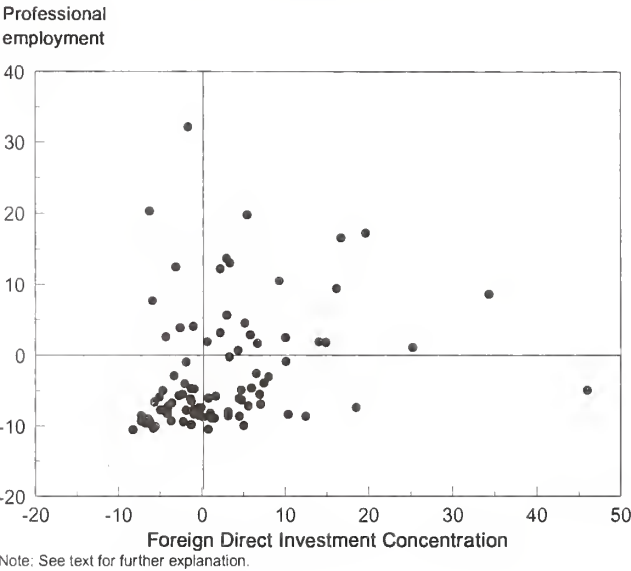


Table 8-3

Array of Manufacturing Industries, by Professional Workers' Share of Total Industry Employment, and by Foreign-Owned Firms' Share of Total Industry Employment, Number of 2-digit SIC

		Foreign-owned firms' share of total employment in each industry relative to their average 8.7% share across all industries	
		HIGHER	LOWER
Professional workers' share of employment in all firms in each industry relative to their average 12.2% share across all industries	HIGHER	4	3
	LOWER	4	7

- 7 industries had with lower professional shares and higher production shares.

Petroleum and Coal Products and Transportation Equipment. In two of the seven industries (petroleum and coal products and transportation equipment) in which the foreign-owned establishments averaged lower professional shares and higher production shares, the differences in shares are substantial and are discussed separately. Unlike manufacturing overall, both of these industries had workforces in foreign-owned establishments with much higher proportions of employment in production occupations and much lower proportions in professional occupations than all U.S. firms. These differences were not only in the opposite direction of the differences in manufacturing overall, but they were also much larger (Table 8-4).

In the petroleum and coal products industry (SIC 29) most of these large differences can be traced specifically to the petroleum refining industry (SIC 291), which accounts for the vast majority of employment in the petroleum and coal products industry. In petroleum refining, foreign-owned establishments employed only 13.5 percent of their workforces in professional and related occupations, compared with 21.7 percent in all establishments; 71.9 percent of their workforce was employed in production occupations, versus 59.2 percent in all establishments.

Differences in the occupational composition in the transportation equipment industry (SIC 37) between foreign-owned and all U.S. firms were even larger than

in the petroleum and coal products industry. Much of the difference between foreign-owned and all U.S. firms was accounted for by the heavy concentration of foreign investment in motor vehicles and motor vehicle equipment (SIC 371), which has relatively low levels of employment in professional occupations and high levels of production workers.

Moreover, a large difference in occupational composition between foreign-owned and all U.S. establishments at the 2-digit SIC transportation industry level is also reflected in the 3-digit level motor vehicles and motor vehicle equipment industries. In foreign-owned motor vehicle and motor vehicle equipment establishments, professional and related workers made up only 8.8 percent of employment compared to 11.3 percent in all establishments, and production workers accounted for 79.0 percent in foreign-owned firms but only 74.2 percent in all U.S. establishments. These differences may reflect a number of factors, such as differences in average size and age of foreign-owned and all U.S. establishments. (For an analysis of the other factors that may be important, see discussion of the occupational structure of Japanese-owned establishments in motor vehicle manufacturing in the next section.)

Country of Ownership

Distinct occupational patterns were also observable by country of ownership in foreign-owned U.S. establishments. In 1989, there were seven countries that each accounted for more than 100,000 employees in foreign-owned manufacturing establishments. These were Canada, France, Germany, Japan, the Netherlands, Switzerland, and the United Kingdom. Among these seven countries, there are broadly three patterns of occupational distribution.

- Swiss-owned firms have a pattern of their own, with professional workers making up a much higher proportion of the workforce than in all U.S. firms and production workers making up a much smaller portion.
- Canada, Germany, the Netherlands, and the United Kingdom fall into one category with a pattern of slightly higher proportions of professional workers and lower proportions of production workers than all U.S. manufacturing establishments, very much like the overall pattern in foreign direct investment.
- France and Japan made up the third group, showing a pattern of lower proportions of professional workers and higher proportions of production workers.

As is the case in foreign direct investment overall, heavy concentration of investment in certain industries

Table 8-4
Petroleum and Coal Products and Transportation
Equipment Industries: Major Occupational Groups'
Percent of Total Employment in Foreign-owned, and
All U.S. Establishments, 1989

Industry & occupational group	Percent of Total Employment in--	
	Foreign-owned	All U.S.
Petroleum & Coal:		
Managerial	5.4	6.2
Professional	13.3	17.8
Clerical	10.4	11.7
Production	68.2	61.0
Other	2.7	3.3
Transportation Equip.:		
Managerial	5.1	5.2
Professional	10.9	22.3
Clerical	8.0	9.4
Production	74.5	60.5
Other	1.5	2.6

often goes a long way toward explaining these country occupational patterns.

Switzerland

Switzerland showed a pattern in occupational distribution that was very similar to that found in Canadian, German, Dutch, and British-owned establishments, but the differences between all U.S. and Swiss-owned establishments were much larger. Swiss-owned establishments employed higher shares of professional and related occupations and lower share of production workers than in all U.S. establishments. (Figure 8-3 and Table 8-5) The differences in occupational pattern were largely the result of differences in industry concentration.

The occupational distribution in Swiss firms can be largely explained by heavy investment in the chemicals and allied products industry. The Swiss also were heavily invested in instruments and related products (SIC 38), which had the highest proportion of professional workers (28.3 percent in all U.S. establishments) of any 2-digit manufacturing industry. Nevertheless, Swiss investment was also substantial in food and kindred products (SIC 20), which has relatively low levels of professional workers and high levels of production workers. When the industrial distribution of Swiss foreign direct investment at both the 2-digit and 3-digit SIC levels is taken into account, the difference in occupational distribution between Swiss-owned establishments and all U.S. establishments is still not fully explained. These unexplained differences may be due to industrial concentration at more detailed levels or they may be due to true differences in occupational patterns.

Canada, Germany, the Netherlands and the United Kingdom

Like the overall occupational distribution, the occupational distribution for establishments owned by investors from Canada, Germany, the Netherlands, and the United Kingdom can be almost entirely explained by the concentration of investment in industries which normally employ more professional workers and fewer production workers. These countries employed slightly higher shares of professional and related occupations and somewhat lower shares of workers than in all U.S. manufacturing establishments.

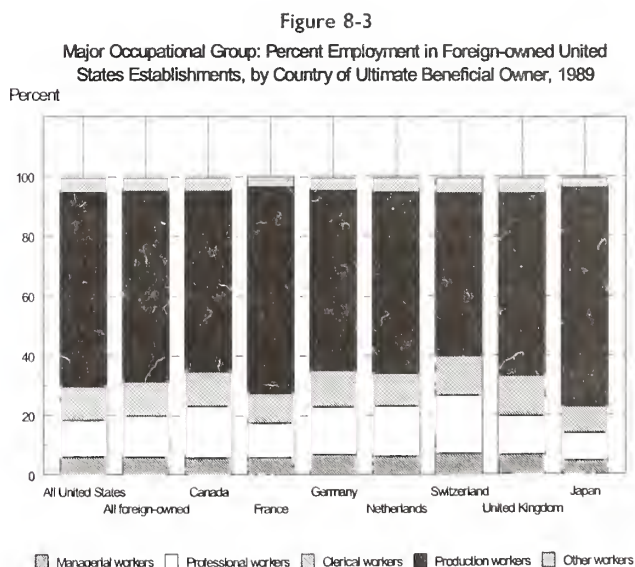
Investment from these four countries accounted for more than one-half of employment in foreign-owned manufacturing establishments. It was concentrated in many of the same industries as manufacturing foreign investment overall. These countries were heavily invested in chemicals and allied products and petroleum and coal products. Plastics material and synthetics (SIC

282), drugs (SIC 283), and petroleum refining (SIC 291) were industries with particularly high levels of investment where professional and related workers made up a very large proportion of the workforce.

France and Japan

In contrast, France and Japan were the only major countries that had investments that employed a smaller proportion of professional workers and a larger proportion of production workers than average for all U.S. establishments. For these countries, the differences in occupational distribution with all U.S. establishments were not very large. French-owned establishments employed 11.4 percent of their workforces in professional and related occupations and Japanese-owned establishments employed an even lower 9.2 percent, in contrast to 12.2 percent for all U.S. manufacturing workforces. Production workers made up 69.0 percent of employees in French-owned firms and 73.5 percent in Japanese-owned firms, but only 65.1 percent in all U.S. establishments.

Industry concentration effects on the occupational distribution in French and Japanese investments in the United States do not explain the existing occupational differences with the average for all U.S. firms. Although employment in French-owned establishments was high in the rubber and miscellaneous plastic products (SIC 30); stone, clay, and glass products (SIC 32); and primary metal industries (SIC 33)--industries which employ lower proportions of professional workers and higher proportions of production workers--it was even more heavily concentrated in industries like chemicals and allied products (SIC 28), petroleum and coal products (SIC 29), and electronic and other electrical equipment (SIC 36)--industries which employ higher proportions of professional workers and a lower proportions of



production workers.

The tendency of French-owned firms to employ fewer professional workers and more production workers compared to all U.S. establishments appears relatively small at the aggregate level, but is more pronounced within detailed industries. Japanese-owned establishments were moderately concentrated in industries that employed higher proportions of production workers, but the differences in occupational distribution compared with the average for all U.S. establishments are too large to fully attribute to industry mix.

One very clear difference between the occupational patterns in Japanese-owned firms and the average for all U.S. firms is in the motor vehicles and motor vehicle equipment industry. In this industry, professional and related workers in all U.S. establishments make up 11.3 percent of the workforce, but only 6.6 percent of the workforce in Japanese-owned establishments. While all U.S. businesses in the industry employ just 74.2 percent of workers in production occupations, Japanese-owned establishments employ 86.1 percent.

There are several possible factors that could be contributing to this difference between Japanese-owned and all U.S. establishments. These include industry mix effects as well as differences in the size and age of the establishments and in management methods. It is also possible that these occupational differences are the result of manufacturing functions performed by Japanese parent firms in Japan rather than by their U.S. affiliates. These functions might include administration, research and development, and design. On the other hand, if the Japanese-owned establishments in the U.S. might actually have the same occupational distribution as their parent companies' establishments in Japan, the differences in occupational distribution may reflect differences between Japanese and U.S. firms generally rather than just differences between their U.S. establishments and all U.S. establishments.

Conclusions

On balance, foreign investment in high skill industries has a positive impact on the U.S. manufacturing labor market. BLS occupational data for foreign direct investment show that there is very little overall difference between the occupational distributions of

foreign-owned manufacturing establishments and all U.S. manufacturing establishments. At this overall level, the small differences that do exist in the professional occupations and production occupations can be mainly attributed to the concentration of foreign direct investment in industries like chemicals and allied products, electronic and other electrical equipment, and industrial machinery and equipment which have this same pattern. At the 2-digit and 3-digit industry levels, however, there are larger, more significant differences, some of which can also be explained by greater than average concentration of foreign investment in specific industries.

There are some differences in occupational distribution at the 2-digit industry level, however, that cannot be fully explained by the concentration of investment in certain industries. In the petroleum and coal products and the transportation equipment industries, foreign-owned establishments employ much higher proportions of production workers and much lower proportions of professional workers. Data for these industries suggest real differences between foreign-owned and U.S.-owned establishments.

There are also distinct patterns in occupational distribution by country of ownership. Industry concentration also had a major effect on these patterns. Establishments owned by investors from Canada, Germany, the Netherlands, and the United Kingdom showed occupational distributions that were like distributions in all U.S. establishments. Swiss-owned establishments employed relatively more professional workers and fewer production workers, while French- and Japanese-owned establishments had lower proportions of professional workers and higher proportions of production workers.

These new data shed light on the contention that foreign investors are merely setting up rudimentary assembly plants in the United States and retaining all advanced processes in their home countries. The data indicate that, in general, this contention is not valid. Not only are the overall differences in the share of professional workers in foreign-owned firms small compared with that in all U.S. firms, that difference is largely accounted for by the difference in concentration across industries of the foreign-owned firms compared with all U.S. firms.

Table 8-5

Private 2-Digit Manufacturing Industry by Major Occupational Group: Percent Distribution of Employment in all United States and in Foreign-owned United States Establishments, 1989

Industry	1987 SIC code	All occupations		Managerial & administrative workers		Professional, paraprofessional technical workers		Sales & related workers	
		All	Foreign- owned	All	Foreign- owned	All	Foreign- owned	All	Foreign- owned
Manufacturing total.....		100.0	100.0	6.3	6.2	12.2	13.7	3.2	3.1
Food and kindred products.....	20	100.0	100.0	5.4	6.3	4.2	5.9	4.2	3.9
Tobacco products.....	21	100.0	n	4.9	n	13.1	n	5.5	n
Textile mill products.....	22	100.0	100.0	3.6	3.8	2.8	3.2	1.1	1.6
Apparel and other textile products	23	100.0	100.0	3.3	3.8	1.8	2.8	1.8	3.1
Lumber and wood products.....	24	100.0	n	5.1	n	2.7	n	2.0	n
Furniture and fixtures.....	25	100.0	100.0	4.9	4.1	3.5	3.2	2.2	1.1
Paper and allied products.....	26	100.0	100.0	4.9	4.7	6.5	5.0	3.0	2.7
Printing and publishing.....	27	100.0	100.0	7.6	6.4	12.7	14.5	10.8	9.7
Chemicals and allied products.....	28	100.0	100.0	9.0	8.4	21.8	23.8	4.3	3.4
Petroleum and coal products	29	100.0	100.0	6.2	5.4	17.8	13.3	2.2	2.0
Rubber and miscellaneous plastic prod.....	30	100.0	100.0	5.6	5.0	4.9	6.9	2.1	1.7
Leather and leather products.....	31	100.0	100.0	4.0	4.3	2.4	3.2	2.2	0.6
Stone, clay, and glass products.....	32	100.0	100.0	5.8	4.5	4.2	4.3	2.7	2.5
Primary metal industries.....	33	100.0	100.0	4.8	3.9	6.7	8.5	1.6	1.5
Fabricated metal products.....	34	100.0	100.0	6.4	6.4	6.8	9.8	2.4	2.5
Industrial machinery and equipment	35	100.0	100.0	8.1	6.8	18.3	17.5	2.9	3.9
Electronic and other electrical equip....	36	100.0	100.0	7.0	6.3	19.0	17.5	2.3	2.2
Transportation equipment.....	37	100.0	100.0	5.2	5.1	22.3	10.9	1.0	0.9
Instruments and related products.....	38	100.0	100.0	9.6	7.8	28.3	25.1	3.0	3.8
Miscellaneous mfrg. industries.....	39	100.0	100.0	6.6	6.0	5.2	7.9	4.2	4.9

Industry	1987 SIC code	Clerical & administrative support workers		Service workers		Production & related workers		Agriculture, forestry, fishing, & related workers	
		All	Foreign- owned	All	Foreign- owned	All	Foreign- owned	All	Foreign- owned
Manufacturing total.....		11.3	11.5	1.5	1.4	65.1	63.9	0.5	0.1
Food and kindred products	20	9.1	10.8	3.4	3.8	72.4	68.6	1.1	0.7
Tobacco products.....	21	6.8	n	1.1	n	68.5	n	0.2	n
Textile mill products.....	22	8.2	7.3	1.5	1.9	82.9	82.2	-	-
Apparel and other textile products.. ...	23	8.9	8.8	1.0	1.1	83.2	80.4	-	-
Lumber and wood products.....	24	6.9	n	1.3	n	73.3	n	8.7	n
Furniture and fixtures.....	25	9.9	8.5	1.1	1.1	78.4	81.9	-	0.1
Paper and allied products.....	26	9.4	8.5	1.2	1.0	74.6	77.5	0.5	0.4
Printing and publishing.....	27	21.8	24.5	1.1	1.0	46.0	43.9	-	-
Chemicals and allied products	28	14.7	14.0	1.9	1.6	48.1	48.6	0.3	0.2
Petroleum and coal products.....	29	11.7	10.4	1.2	0.8	61.0	68.2	-	-
Rubber and misc. plastic products.....	30	9.0	8.7	1.2	1.0	77.2	76.7	-	-
Leather and leather products.....	31	10.3	17.4	1.2	2.0	80.0	72.5	-	-
Stone, clay, and glass products	32	9.0	6.9	0.9	1.0	77.2	80.7	-	-
Primary metal industries.....	33	8.0	8.5	1.4	1.6	77.5	76.0	-	-
Fabricated metal products.....	34	10.2	10.3	1.3	1.4	72.9	69.4	-	-
Industrial machinery and equipment	35	12.4	12.3	1.0	0.8	57.3	58.7	-	-
Electronic and other electrical equip. ...	36	10.8	10.5	1.1	1.0	59.9	62.5	-	-
Transportation equipment.....	37	9.4	8.0	1.7	0.6	60.5	74.5	-	-
Instruments and related products.....	38	14.6	13.6	1.5	1.1	42.9	48.6	-	-
Miscellaneous mfrg. industries.....	39	13.9	13.5	1.1	0.8	69.0	66.7	-	-

n indicates data do not meet BLS, BEA, or state employment security agency disclosure standards.

Dash = less than 0.05 percent

Detail may not add to totals due to rounding.

Table 8-6
Private Manufacturing Industry by Country of Ultimate Beneficial Owner and Major Occupational Group:
Employment in All United States and in Foreign-owned United States Establishments, 1989

Region and country	All occupations		Managerial & administrative workers		Professional, paraprofessional, & technical workers		Sales & related workers	
	Total	Percent	Total	Percent	Total	Percent	Total	Percent
All establishments.....	19,513,080	100.0	1,225,770	6.3	2,381,710	12.2	619,680	3.2
All foreign-owned establishments	1,696,490	100.0	105,420	6.2	233,230	13.7	52,600	3.1
Canada.....	235,510	100.0	13,810	5.9	40,560	17.2	7,210	3.1
Latin America and other Western Hemisphere.....	63,370	100.0	3,340	5.3	8,940	14.1	930	1.5
Europe.....	1,092,930	100.0	72,280	6.6	152,010	13.9	36,520	3.3
France.....	137,690	100.0	8,210	6.0	15,740	11.4	3,100	2.3
Germany.....	208,310	100.0	14,280	6.9	33,310	16.0	6,800	3.3
Netherlands.....	107,400	100.0	6,870	6.4	18,080	16.8	3,790	3.5
Switzerland.....	113,780	100.0	8,260	7.3	22,150	19.5	3,290	2.9
United Kingdom.....	385,100	100.0	26,400	6.9	49,970	13.0	14,660	3.8
Africa.....	8,390	100.0	660	7.9	1,840	21.9	250	3.0
Middle East.....	6,490	100.0	370	5.7	1,070	16.5	190	2.9
Asia and Pacific.....	289,800	100.0	14,960	5.2	28,810	9.9	7,500	2.6
Japan.....	232,760	100.0	11,490	4.9	21,340	9.2	5,120	2.2

related workers	Clerical & administrative		Support workers		Production & Service workers		Agricultural, forestry, fishing, & related workers	
	Total	Percent	Total	Percent	Total	Percent	Total	Percent
All establishments.....	2,206,230	ERR	285,300	ERR	12,702,030	ERR	92,360	ERR
All foreign-owned establishments	195,190	11.5	23,450	1.4	1,083,760	63.9	2,130	0.1
Canada.....	27,400	11.6	3,240	1.4	142,640	60.6	600	0.3
Latin America and other Western Hemisphere.....	5,780	9.1	1,240	2.0	43,020	67.9	20	-
Europe.....	133,290	12.2	15,270	1.4	682,010	62.4	1,190	0.1
France.....	13,770	10.0	1,580	1.1	94,960	69.0	310	0.2
Germany.....	25,710	12.3	2,440	1.2	125,600	60.3	150	0.1
Netherlands.....	11,780	11.0	1,660	1.5	65,150	60.7	30	-
Switzerland.....	14,990	13.2	2,570	2.3	62,220	54.7	220	0.2
United Kingdom.....	52,230	13.6	5,560	1.4	235,710	61.2	430	0.1
Africa.....	1,250	14.9	320	3.8	4,050	48.3	20	0.2
Middle East.....	640	9.9	40	0.6	4,170	64.3	-	-
Asia and Pacific.....	26,830	9.3	3,340	1.2	207,870	71.7	300	0.1
Japan.....	20,730	8.9	2,570	1.1	171,160	73.5	160	0.1

n indicates data do not meet BLS, BEA, or state employment security agency disclosure standards.
Dash = zero employment or less than 0.05 percent.

APPENDIX A

Glossary of Foreign Direct Investment Terms

Following are important terms describing foreign direct investment and the operation of foreign-owned affiliates in the United States as used in this report and by the U.S. Department of Commerce, Bureau of Economic Analysis (BEA).

Benchmark year

The year for which BEA conducts a benchmark survey, or census, of foreign direct investment in the United States. Benchmark surveys are normally taken once every five years. They are BEA's most comprehensive surveys of FDI, both in terms of the amount of detail collected and number of firms covered. They are designed to cover the universe of U.S. affiliates in value terms. For example, in the 1987 benchmark survey, all U.S. affiliates of foreign persons were required to report operating, financial, balance of payments, and direct investment position data if the affiliate's total assets, sales, or net income were at least \$1 million or if the affiliate owned 200 or more acres of U.S. land.

Although the affiliates required to report account for only 66 percent of the total number of affiliates in the universe, they accounted for 99.0 percent of the assets, 99.9 percent of the sales, 100.7 percent of the net income, and 96.3 percent of the acres of U.S. land owned by all U.S. affiliates. (The percentage for net income exceeded 100.0 percent because exempt affiliates had, in the aggregate, a net loss for the year.)

BEA's quarterly and annual direct investment surveys are less comprehensive and cover only a sample of companies. Reporting in the annual survey is limited to affiliates with more than \$10 million in total assets, sales, or net income (positive or negative), and fewer operating and financial details are required. Reporting in the quarterly survey is limited to affiliates with more than \$20 million in assets, sales, or net income. Data from the sample surveys are linked to data from the most recent benchmark survey and, for most items, are expanded to universe levels.

In order to promote consistency and comparability between the enterprise data collected by BEA and the establishment data collected by the Census Bureau and to enhance their analytical usefulness, the timing of benchmark surveys of foreign direct investment in the

United States has been shifted to coincide with the economic censuses conducted by the Census Bureau; the first such year was 1987.

Enterprise and Establishment

The data reported to BEA by U.S. affiliates are for the fully consolidated affiliate enterprise. In many instances, an affiliate will comprise two or more establishments or plants. Data reported to some other agencies on the operations of U.S. companies may be for the operations of individual establishments within the enterprise.

For years beginning with 1987, BEA and the Census Bureau have obtained establishment data for U.S. affiliates by linking BEA company-, or enterprise-, level data on foreign direct investment with the Census Bureau plant-, or establishment-, level data for all U.S. companies. BEA's data have also been linked with Bureau of Labor Statistics plant-, or establishment-, level data for all companies for years beginning with 1989.

BEA's enterprise data are needed for analyzing the overall significance of, and trends in, direct investment and for compiling the U.S. international transactions accounts, the international investment position of the United States, and the U.S. national income and product accounts. The establishment data are needed for analyzing the activities and importance of U.S. affiliates in specific industries.

Foreign Direct Investment in the United States (FDIUS)

Foreign investment in an enterprise in the United States is classified as foreign direct investment when ownership or control, directly or indirectly, by a foreign person amounts to 10 percent or more of the voting securities of an incorporated U.S. business enterprise, or an equivalent interest in an unincorporated U.S. business enterprise. Such an enterprise is referred to as a foreign-owned U.S. affiliate.

The flows of FDI during a given period are recorded in the U.S. balance-of-payments capital account, and the accumulated stock of FDI is recorded in the U.S. international investment position at the end of a given

period. FDI capital flows cover investment in both new and existing U.S. affiliates by their foreign parents and other members of their foreign parent groups (see definition below).

Like other items in the balance of payments, direct investment capital flows may not always reflect actual flows of funds across national borders. For example, foreign parents' shares of the affiliates' reinvested earnings are included as a direct investment capital inflow, with an offsetting amount recorded as an income payment (outflow) in the current account, even though the funds never actually crossed national borders.

FDI positions are generally smaller than the total assets of U.S. affiliates, because they only cover positions held by foreign parents and other members of the foreign parent group, rather than the total assets held by all investors in the affiliate, including U.S. residents. For example, unlike the FDI position in an affiliate, which equals the sum of the foreign parent group's equity in, and net outstanding loans to, its U.S. affiliate, the U.S. affiliate's total assets are equal to the sum of (1) total owners' equity in the affiliate held both by members of the foreign parent group and by all other U.S. persons, and (2) total liabilities owed by the affiliate both to members of the foreign parent group and to all U.S. persons.

Outlays for new foreign direct investments in the United States consist of outlays to acquire or establish U.S. affiliates, regardless of whether the invested funds are raised in the United States or abroad. If the funds are raised in the United States, no capital inflow occurs. If the funds are raised abroad by a member of the foreign parent group and used to finance the U.S. acquisition or establishment of an affiliate, a direct investment capital inflow occurs.

Foreign-Owned Affiliate in the U.S.

A business in the United States in which there is sufficient foreign investment to be classified as direct foreign investment. To determine fully the foreign owners of a U.S. affiliate, three entities must be identified: the foreign parent, the ultimate beneficial owner, and the foreign parent group. All of these entities are "persons" in the broad sense: thus, they may be individuals; business enterprises; governments; religious, charitable, and other nonprofit organizations; estates and trusts; and associated groups.

A U.S. affiliate may have an ultimate beneficial owner (UBO) that is not the immediate foreign parent; moreover, the affiliate may have several ownership chains above it, if it is owned at least 10 percent by more than one foreign person. In such cases, the affiliate may have more than one foreign parent, UBO, and foreign parent group.

Foreign Parent

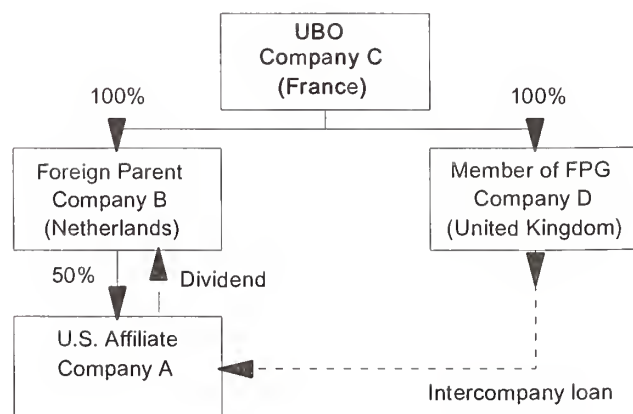
The first foreign person outside the United States in an affiliate's ownership chain that has direct investment in the affiliate.

Foreign Parent Group (FPG)

In many cases, a U.S. affiliate is only one unit in a global network of corporate affiliations. Thus, a U.S. affiliate may have a foreign parent who, in turn, is owned by a direct investor of a third country or who has affiliates in other countries.

The foreign parent group consists of (1) the foreign parent, (2) any foreign person, proceeding up the foreign parent's ownership chain, that owns more than 50 percent of the person below it, up to and including the UBO, and (3) any foreign person, proceeding down the ownership chain(s) of each of these members, that is owned more than 50 percent by the person above it. In the U.S. balance of payments, transactions of U.S. affiliates with all members of the FPG, not only transactions with foreign parents, are shown as transactions with "affiliated" foreigners. Also, equity and debt positions in the affiliate held by all members of the foreign parent group are included in the foreign direct investment position in the United States.

The following diagram illustrates relationships and transactions that could occur between a U.S. affiliate and members of the FPG. Company A is a U.S. chemical company owned 50 percent by Company B, a Netherlands finance affiliate, which is owned 100 percent by Company C, a French manufacturing company. No single investor has more than 50 percent ownership of Company C. Like Company B, Company D, a British company, is owned 100 percent by Company C. Therefore, Company A's foreign parent is Company B; Company A's UBO is Company C. Company A's FPG consists of Companies B, C, and D. Company D is in the FPG because, even though it does not have an ownership interest in the U.S. affiliate, it is more than 50 percent owned by Company C, the UBO.



If Company A receives a loan from Company D, the transaction would be treated as a direct investment transaction in the balance of payments accounts, because Company D is part of the FPG. The flow would be recorded as an intercompany debt inflow from the United Kingdom.

If Company A pays dividends to Company B, the transaction would be recorded as a direct investment income payment between the United States and the Netherlands in the U.S. balance of payments because the dividends are paid directly to the foreign parent (not the UBO). If the Netherlands company (Company B) then passes on the dividend to the French UBO (Company C), this transaction would not be a U.S.-to-foreign transaction; it is a foreign-to-foreign transaction and as such is not recorded in the U.S. balance of payments. (It would, however, be recorded in the balance of payments accounts of France and the Netherlands).

The direct investment position of both Company B and Company D are equal to the book value of their cumulative debt or equity transactions with Company A over time, and are calculated at yearend. For Company B, the position is equal to its equity (including reinvested earnings) in Company A plus any net outstanding loans by it to Company A. Company D has an investment position with Company A equal to the remaining balance of the loan. The position of Company C in Company A is zero because it has no direct equity interest in Company A and has made no loans to Company A.

Industry of Affiliate

Data on the operations of U.S. affiliates owned by foreign investors are classified in BEA data both in terms of the "industry of affiliate" and the "industry of sales".

Classification of an affiliate by "**industry of affiliate**" is based on a three-stage procedure: First, the major industry group accounting for the largest percentage of

its sales is determined. The major industry groups are: (a) agriculture, forestry, and fishing, (b) mining, (c) petroleum, (d) construction, (e) manufacturing, (f) transportation, communication, and public utilities, (g) wholesale trade, (h) retail trade, (i) finance, insurance, and real estate, and (j) services. Second, within the group the two-digit International Surveys Industry (ISI) in which sales are largest is determined. Third, within the two-digit industry the three-digit ISI industry in which sales are largest is determined. This procedure is designed to avoid assigning an affiliate to a two-digit subindustry that is outside its major industry, or a three-digit subindustry outside its two-digit industry.

When classified by "**industry of sales**," affiliate sales and employment data are shown not only for the affiliate's primary industry, but also for its associated secondary industries. This classification method roughly approximates the distribution that would result if the data were reported and classified by industry of establishment.

Nonbank Affiliate

An affiliate classified in an industry other than banking in the ISI coding system.

Ultimate Beneficial Owner (UBO) of an Affiliate

The "person" proceeding up the U.S. affiliate's ownership chain, beginning with and including the foreign parent, that is not owned more than 50 percent by another person. The UBO consists only of the ultimate owner; other affiliated persons are excluded. If the foreign parent is not owned more than 50 percent by another person, the foreign parent and the UBO are the same. The UBO, unlike a foreign parent, may be a U.S. person.



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